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# PROCEEDINGS

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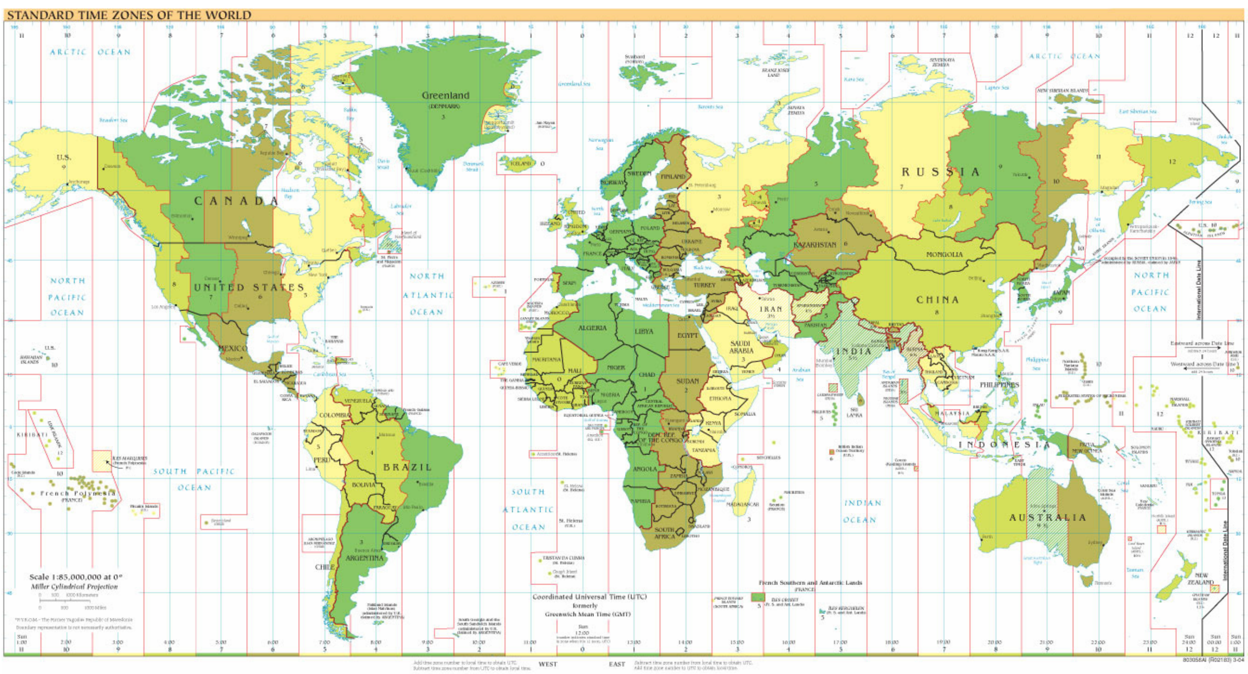
### Las Vegas, Nevada, USA

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## A Welcome Letter from Managing Editors!

**GREETINGS!**

This has been another great, productive year for our Academy (IABE). With the 80 manuscripts contained in these proceedings of the IABE, almost four times as many scholars from all continents are proposing to share their research with you at this meeting as did in last year. We are particularly proud to note that this growth is taking place while, as most our reviewers have commented, the overall competitiveness of all submissions has escalated.

A glance at the table of contents of these proceedings confirms the trademark of our meetings, journals and proceedings: the continental breadth of authors, and the scholarly depth of their contributions. The titles are as provocative as the contents are informative. Unless you always thought (as you will read) that Modigliani and Miller propositions were tautology, or already knew the individual differences behind the plagiarism you may observe in your classroom.

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We hope you will find these proceedings (CD as well as online) and all our other publications informative and useful. Please do not hesitate to ask us how to help make the most use of these unique meetings.

We hope you will join us again next year at the **IABE-2007**, Las Vegas, Nevada, USA.

**Warmest regards,**

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Program Chair, IABE-2006

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# THE DIVERSIFICATION DISCOUNT:
# THE CASE OF CANADIAN PACIFIC LIMITED

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## ABSTRACT

*On October 3rd 2001, the five operating businesses of Canadian Pacific Limited began trading on the Toronto Stock Exchange as independent companies. The decision to split the company into five parts was made in order to "unlock shareholder value" since it was believed that the company, as a diversified conglomerate, was trading at a value lower than the sum of the market value of its parts – a phenomenon known as the holding company discount or diversification discount. We examine whether in fact, there existed such a discount to the true or fair market value of Canadian Pacific Limited and identify the possible causes. As there may have been operating and financial synergistic benefits to remaining a single firm, we discuss possible strategies, other than a complete breakup, for removing or reducing this discount. Some of these are strategies that the company had previously attempted but which were apparently not successful. Finally we show that the breakup achieved its objective in that the post-breakup value of the firm was roughly 30% greater than the pre-breakup value.*

***Keywords:*** *Diversification Discount, Corporate Breakup, Asymmetric Information, Cross-Subsidization, Real Options*

## 1. INTRODUCTION

On October 3rd 2001, the five operating businesses of Canadian Pacific Limited (CPL) began trading on the Toronto Stock Exchange as independent companies, marking the end of one of the oldest and largest conglomerates in Canada. On that day, David O'Brien, the Chief Executive Officer of the newly defunct CPL stated "it is the end of one era and the start of another."

The decision to split CPL into five parts was announced in a news release on February 13th 2001. According to that announcement, the purpose of the breakup was to "unlock shareholder value". Routinely, CPL requested independent valuations of its separate businesses from financial analysts and from time to time, also performed internal analyses based on comparable industry multiples. From these, the top executives of CPL were convinced that, as a whole, CPL was trading at a substantial discount to its true market value. In September 2000, the Board of Directors of CPL retained RBC Dominion Securities to look into the feasibility of each of the five businesses operating and competing successfully as independent companies. At that time CPL's common stock was trading at $42 per share while the internal valuation had the company's true value closer to $47, implying a discount of about 11% to 12%. External analysts pegged the discount to be much higher, somewhere between 30 – 35%.

This perceived discount in value to what is believed to be the "true" or "fair" market value is a fairly well recognized phenomenon that sometimes exists for diversified companies and has been labeled *the holding company discount* or *diversification discount*.

## 2. LITERATURE REVIEW

The academic view of the effect of diversification on value has changed over the years, and this has in turn, heavily influenced the investment community's perspective. Based on Coase's 1937 argument, diversified conglomerates were once viewed as adding value through operating and financial synergies. In particular, a diversified firm provided an internal capital market that was believed to be more efficient than external capital markets since it avoided market transactions costs and informational asymmetries. This value enhancing view on diversification was particularly prevalent in the 1960s and 1970s during which time, conglomerates actually traded at relative premiums. During the 1980s, there was a turn around in the perception of diversification as the financial markets began to perceive diversification as a value destroyer and accordingly proceeded to devalue diversified firms.

What causes this relative devaluation of diversified firms? The predominant theory suggests it is due to funds being mis-allocated between divisions. In contrast to financial markets where funds are allocated to the most productive parts of the economy, the internal capital market system of conglomerates are likely to subsidize inefficient or poorly performing divisions with the cash flows from those divisions that are most productive (Rajan, Servaes and Zingales, 2000; Lamont, 1997; Shin and R. Stulz, 1997). However, inefficient capital allocation theory flies in the face of the widely held belief that a key benefit of mergers and acquisitions is the superior functioning of internal capital markets.

Another theory argues that conglomerates have relatively higher risk-adjusted required returns relative to specialized firms and therefore have their cash flows valued comparatively less. (Capozza and Seguin' 2001; Lamont and Polk, 2002) Although this theory has an intuitive "leverage effect" argument, its proponents rarely provide strong justifications as to *why* the required returns are greater for diversified companies. A frequent argument is that a liquidity premium exists on diversified firms stocks since there are presumably less shares being traded than there would otherwise have been.

A third theory is that in the presence of asymmetric information between insiders and outsiders, diversified firms are simply mis-priced by the market because the stock prices of the combined firm contain or reveal less information than if the firm's divisions had separately traded stock. Consequently, the number and industry specialization of the analysts (presumed to be informed traders) that cover a diversified company will impact on the size of the diversification discount. It should be noted here that, in some sense, this was the theory that CPL's management subscribed to, arguing that the company's stock was likely to be covered by railway analysts who were unable to decipher the proper value in the other divisions.

A fourth and somewhat recent theory to emerge is that the presence of real options creates non-additivity of value when firms merge (Trigeorgis 1993, Lambrecht, 2004). As the total market value of a firm or division is the value of assets-in-place plus the value of the firm's real options, then conglomerates of divisions that share resources (including pooled capital) can be valued relatively less (or more) if the combined value of the conglomerate's real options is significantly lower (or greater) than the sum of the options of individual divisions. Although appealing, this theory has yet to be fully developed and, given the complex nature of real options analysis, may in fact prove difficult to test.

Finally, there is a theory on the diversification discount that proposes that there *is no discount at all*, and that the seemingly lower relative value is due to the tendency for poorly performing and devalued firms to merge creating seemingly devalued conglomerates.

## 3. A BRIEF HISTORY OF CPL'S DIVERSIFICATION

Corporate diversification, expansion through acquisition, had been the strategic mantra of CPL from almost the company's inception. By the mid 1990s the diversification strategy was revisited and CPL began to slow down its rate of acquisitions and then reverse it with several divestitures. Just prior to the break up, CPL held five operating businesses with international presence in the energy, transportation, and hotel industries. Table 1 gives a summary of CPL's net income by division for the five years prior to the breakup. In 2000 PanCanadian surpassed CPR for the first time. This was due to the fact that crude oil and natural gas were nearly double what they had been in 1999.

By the year 2000, each one of these business units had become a major player in its respective industry. However, by mid 2000, the general perception still remained that as a combined and diversified group, they were trading at a significant lower value than was their total fair market value. That is, despite attempts at remedies, CPL still suffered from a diversification discount. CPL's Board concluded that breaking company up into five separately traded companies would unlock value due to four factors.

1. Management (better strategic focus)
2. Capital (better capital structure management and better access to capital markets)
3. Investor Understanding (better market recognition)
4. Employees (better incentive compensation contracts)

**TABLE 1: CANADIAN PACIFIC'S NET INCOME BY DIVISION (***Before restructuring charges)*

| | 2000 | 1999 | 1998 | 1997 | 1996 |
|---|---|---|---|---|---|
| PanCanadian | 880 | 287 | 116 | 274 | 286 |
| CPR | 532 | 374 | 347 | 317 | 445 |
| CPH & RE | 153 | 119 | 99 | 63 | 70 |
| CP Ships | 206 | 85 | 151 | 135 | 103 |
| Fording | 33 | 27 | 66 | 118 | 94 |
| Continuing Ops. | | | | | |
| Discontinued Ops. | -- | -- | -- | 309 | 29 |
| Corp. Special Items | (37) | (298) | 22 | 40 | (158) |
| **Total CPL** | 1,767 | 594 | 801 | 1,256 | 869 |
| **Capitalization** | 13,590 | 10,293 | 9,654 | 13,298 | 12,415 |
| **Avg. Shares Out.** | 317.9 | 331.5 | 335.8 | 345.4 | 344.4 |
| **ROE – Cont. Ops.** | 19.8% | 7.3% | 10.3% | 13.2% | 13.1% |

### 4. A SUMMARY OF THE BREAKUP "ARRANGEMENT"

The Arrangement Agreement was a "butterfly" reorganization that resulted in CPL converting four of its five business holdings into independent new companies. CPL then changed its name to Fairmont Hotels and Resorts (FHR) and retained ownership of the hotels as well as created a new subdivision called FHR Investments. Under the Arrangement, each share of CPL was converted into:

- 0.5 shares of CPR new common
- 0.25 shares of CP Ships new common
- 0.25 shares of FHR (CPL renamed)
- 0.166 shares of Fording new common
- 0.684 shares of PanCanadian new common

Any fractional interest remaining was paid in cash. These fractions were based on the estimated true value of CPL's old shares and were chosen for two reasons. Firstly, there was a concern that the new shares of PanCanadian not dilute the value of existing PanCanadian shareholders. Secondly, the company wanted all new common shares to trade in a range deemed suitable for adequate liquidity. For example, the internal estimated value for CP Ships was \$1.2 billion. By using a 0.25 assigned fraction of CP Ships, the implied a total number of outstanding shares of 79,092,117.50, resulting in a stock price in the desired \$15-\$16 range. Each CPL Preferred Share was redeemed at a price of \$26 per share plus all accrued and unpaid dividends. In order for the Arrangement to pass and be implemented, it required at least $66^{2}/3$% of the votes cast at a special shareholders meeting held on September 26th 2001 in Calgary, Alberta.

### 5. WAS THERE REALLY A DIVERSIFICATION DISCOUNT ON CPL?

Our first task is to answer the question of whether or not there was a measurable difference between CPL's going market value (prior to the breakup) and its "true" or fair value. In other words, we must first attempt to determine whether CPL's diversification discount was real or imagined before we can proceed to analyze the possible cause of the discount. Although "true" value is elusive, we attempt to answer this fundamental question by examining three measures of CPL's true value. The first is a comparables enterprise value estimated by CPL, the second is a consensus of analysts' estimates and the third is the Tobin's q of a pure-play matching portfolio.

*CPL's Estimated Enterprise Value*

CPL, like most conglomerates, routinely conducted valuations on companies that were considered potential acquisitions. The Department of Planning and Analysis was responsible for performing these valuations, and, when considering a divestiture, also performed internal estimation of various businesses of CPL. For PanCanadian, this was particularly simple as it was already a publicly traded stock on the TSE, and its valuation procedure used an average of the closing prices for the last 30 trading days. CPR, CP Ships, Fording and Fairmont were private companies, and their estimation process consisted of calculating an enterprise value (EV) to operating cash flow ratio, where operating cash flow was defined as the earnings before interest, taxes, and depreciation (EBITDA). This ratio EV/EBITDA, also called the EBITDA multiple, was calculated and updated each year, and applied to the subsequent year's earnings to get an enterprise value from which the net asset or equity value was obtained through the identity:

EV = equity value (market cap adjusted for options/warrants and converts)
+ total debt (incl. leases)
– cash (debatable excess cash only)
– marketable securities
+ minority interest (at market value)

In order to calculate the enterprise value, CPL used two methods. The first method was an enterprise value based on the market multiple of comparable companies while the second method was a discounted cash flow (DCF) valuation on each companies' long-term plan. An average of the two methods provided the final enterprise value to be used. Table 2 shows CPL's estimated trading value for the years 1995, 1999, and 2000 along with the EBITDA multiple obtained for the year 2000. The table also compares the results to the prevailing stock prices at the time. We can see that CPL's estimation suggested that in 2000 the company's shares were trading at a 12% discount.

**TABLE 2: CPL's ESTIMATED ENTERPRISE VALUE**

| | 2000 EBITDA Multiple | Enterprise Value Aug. 2000 | Sept. 1999 | Sept 1995 |
|---|---|---|---|---|
| PanCanadian | 4.2 | 6,500 | 5,000 | 5,200 |
| CPR | 5.9 | 4,500 | 4,300 | 1,400 |
| CPH & RE | 9.6 | 1,900 | 1,800 | 700 |
| CP Ships | 6.4 | 2,000 | 1,500 | 700 |
| Fording | 5.5 | 550 | 650 | 600 |
| Laidlaw | | ---- | ---- | 600 |
| Other | | (450) | 800 | 300 |
| **Total CPL** | 5.3 | 15,000 | 14,050 | 9,500 |
| **NAV per share** | | $47 | $42 | $28 |
| **Mkt. Price per share** | | $42 | $38 | $22 |
| **Discount** | | 11% | 11% | 21% |

*Analysts Forecasts*

As mentioned previously, CPL routinely requested independent valuations from financial analysts. This provided them with another estimate of the company's fair market value. Table 3 shows the estimates of the value of CPL shares provided by various analysts in August 2000 and in February 2001. If this is compared to the average price of $40.40 in the month of August 2000, and of $54.00 in the month of February 2001, we find that relative to the average of analysts' estimates, CPL was trading at a discount of 25.5% in August 2000, and at a discount of 19.1% in February 2001

**TABLE 3: ANALYSTS' ESTIMATES OF CPL's TRUE EQUITY VALUE PER SHARE**

| Author | Date Published | Price/Share |
|---|---|---|
| Research Capital | 15 November 2000 | $56.97 |
| RBCDS | 23 August 2000 | $49.45 |
| BMO Nesbitt Burns | 17 August 2000 | $56.18 |
| Average equity value per share: | | $54.20 |
| Canaccord Capital | 14 February 2001 | $66.98 |
| Salomon Smith Barney | 13 February 2001 | $68.19 |
| Salman Partners | 13 February 2001 | $69.73 |
| CSFB | 05 February 2001 | $52.82 |
| Merrill Lynch | 15 February 2001 | $77.46 |
| MSDW | 14 February 2001 | $69.13 |
| ING Barings | 15 February 2001 | $62.67 |
| Average equity value per share: | | $66.71 |

*Tobin's q*

Tobin's *q* is the ratio of the present value of future cash flows divided by the replacement value of the firm's tangible assets. This ratio has been recognized in academics as a very useful measure of relative value since it requires no normalization for risk or for size. Table 4 gives the results of the comparative analysis. From the table, we observe that in terms of Tobin's *q* values, CPL was trading at an average discount of 24.2% in 1998, 12.9% in 1999, and 20.8% in 2000.

**TABLE 4: TOBINS'S *q* FOR CPL VS. SINGLE SEGMENT FIRM PORTFOLIO**
(*Weights used are in parenthesis)*

| Tobin's *q* for: | 1998 | 1999 | 2000 |
|---|---|---|---|
| Integrated Petroleum | (0.38) 1.74 | (0.37) 1.71 | (0.42) 1.84 |
| Railway | (0.48) 1.67 | (0.49) 1.27 | (0.43) 1.25 |
| Shipping | (0.02) 1.20 | (0.02) 0.97 | (0.03) 1.08 |
| Hotel Management | (0.05) 2.78 | (0.06) 3.09 | (0.06) 3.72 |
| Coal | (0.06) 0.67 | (0.06) 1.46 | (0.05) 1.15 |
| *Pure Play Portfolio* q | 1.69 | 1.54 | 1.63 |
| *CPL's Actual* q | 1.28 | 1.34 | 1.29 |

It appears that irrespective of the method used to estimate the true or fair market value, a diversification discount was imposed CPL's share price. The issue as to why this discount existed is the topic of the next section

## 6. POSSIBLE CAUSES OF CPL'S DIVERSIFICATION DISCOUNT

From a financial management perspective, it can be argued that there are both potential benefits and potential costs to diversification. *A priori*, corporate diversification could lead to an increase or a decrease in a firm's value. Therefore if a decrease in value is manifested by a relative discount in share price, identification of its existence and an understanding of its cause are the first steps to addressing the issue and hopefully to suggesting what the possible remedies might be. It is worthwhile at this point to summarize the possible causes of the diversification discount. These are: 1) Capital allocation inefficiency, 2) Market informational inefficiency, 3) Greater required returns, 4) Sub-additive real option valuation, or 5) Pre-merger devaluation of divisions.

As the predominant theory on diversification discounts is inefficiently allocated capital, we examine this first, and in some detail. The ability of management to inefficiently allocate capital - either through cross-subsidization, through an information gap between top management and divisional management, or through some other mechanism - is severely reduced if there is a fairly high degree of monitoring by outsiders. Typically these outsiders will be outside directors of the Board or institutional investors.

CPL had thirteen very experienced directors on the Board, and in compliance with the Toronto Stock Exchange guidelines on corporate governance, twelve of these were outside or unrelated directors. CPL also had a substantial portion of its shares held by institutional investors. Table 5 provides a list of some of CPL's Canadian institutional holders. These funds alone held a combined 42.1% of the outstanding shares and in most cases, CPL shares represented a sizable investment of between 4% to 5% percent of the funds total assets. Hence, we could expect that a close watch was kept on the actions of CPL's management. Given such a high level of potential monitoring, both internally and externally, it seems likely that even if there had been inefficiency in capital allocation, it was kept at a minimum.

**TABLE 5**

| Fund Name | Shares '000s | % Total Asssets | As of Date |
|---|---|---|---|
| Meritas Jantzi Social Index | 3.3 | 4.8 | 28 Sep 01 |
| MD Canadian Tax Managed Pool | 16.6 | 4.7 | 28 Sep 01 |
| Merrill Lynch Canadian Growth | 344.0 | 4.5 | 28 Sep 01 |
| Fidelity Canadian Large Cap | 213.0 | 4.3 | 29 Jun 01 |
| Capstone Balanced Trust | 6.5 | 4.3 | 29 Jun 01 |
| Canada Life Can. Premium Growth Eq. | 8.8 | 4.2 | 30 Sep 01 |
| AIM Canadian Leaders | 3.3 | 3.9 | 28 Sep 01 |
| Scotia Canadian Mid-Large Cap | 248.8 | 3.9 | 31 Aug 01 |
| Co-Operators Canadian Equity | 33.2 | 3.9 | 31 Aug 01 |
| Altamira Precision Canadian Index | 33.8 | 3.6 | 31 Aug 01 |

Despite this argument, we go a step further and examine whether in fact CPL did cross-subsidize poor divisions by allocating relatively more capital to divisions with relatively lower investment opportunities. Using the method suggested in Rajan et al. (2002), we measure allocation of funds by the investment ratio, which is the capital expenditure to total assets (at beginning-of-period) ratio. We compare the distribution of this ratio across divisions with the distribution of the three-year average of pure play Tobin's *q*, again across divisions. If there was efficient capital allocation through cross-subsidization, we should expect to see divisions with low Tobin's *q* having relatively higher investment ratios. Table 6 presents the results with the divisions listed in order of descending *q*. Although there appears to be some evidence of cross-subsidization, the table suggests that it was not severe. The middle ranking of Tobin's *q* across divisions matches with the middle ranking of the investment ratio.

**TABLE 6: CPL'S INVESTMENT RATIO VS. TOBIN'S *q* BY DIVISION**

| | Industry's 3-year average *q* | CPL's Inv./T.A. Ratio (2000) |
|---|---|---|
| CP Hotels & Resorts | 3.197 | 0.20 |
| PanCanadian | 1.763 | 0.36 |
| CP Rail | 1.397 | 0.06 |
| Fording | 1.093 | 0.03 |
| CP Ships | 1.083 | 0.34 |

With regard to the second possible cause, market informational inefficiency, management at CPL believed that this – in particular the analyst coverage – was the key culprit. Management also believed that the solution required wider analyst coverage or general investor awareness, implying that the remedy may involve either some encouragement of wider analyst coverage of the firm as a whole, or the breaking up the company into single segment firms and thus automatically "forcing" wider analyst coverage.

Institutional investors and directors may monitor the company, but they are not usually involved with stock price valuation, or with buy and sell recommendations, various research analysts are. Typically, investment banking firms have an analyst focus on one or two sectors of the economy and select a limited number of companies within those sectors to cover. CPL had a relatively large number of analysts covering its stock. A well-covered stock will have from 10 to 15 analysts from major investment firms covering the stock. A search for analysts providing buy and sell recommendations on CPL revealed 14. As a comparison, Tyco had 12 and GE had 15. While the particular financial analysts involved were often transportation (mainly railway and trucking) specialists, this was not always the case. For example, James Valentine at Salomon Brothers, and Beth Fusco at Neberger and Berman covered CPL and both were transportation analysts. So too was Michael Lloyd at Merrill Lynch. However, also covering CPL was Rossa O'Reilly at CIBC World Markets who was a hotel analyst and Joseph Leinwand, who was RBC Security's analyst for conglomerates. Hence, the argument that these analysts were unable to correctly assess CPL and its' various interests does not seem too plausible.

The third possible cause, that diversified companies have greater required returns, has supporting empirical evidence but is short on justifications as to *why* the required returns are greater. Any argument based on the leverage effect runs straight into the counter-argument that diversified firms have cash flows with lower volatility and hence should be able to take on greater leverage than their pure play counterparts. The arguments based on liquidity effects also do not hold for CPL. From start of 1999 to end of 2000 the volume of CPL shares traded represented about 6% of all the shares traded on the Toronto Stock exchange. Furthermore, CPL also traded on the NYSE and it is well documented that such international cross-listing provides greater liquidity and lower market risk premiums. One other argument that can be made to justify greater required returns is from a strategic management perspective. Eisenmann (2002) has suggested that investors in the capital markets might have reason to believe that the firm's top management lack as in-depth an understanding of the various lines of business as single segment firms, and also have less reliable information on which to make decisions on capital budgeting proposals which could lead to diversification causing greater systematic riskiness in the firm's cash flows and therefore a greater required return on assets or cost of capital.

There are two reasons why this theory would not likely apply to CPL. First, although still diversified, CPL had become much more focused in terms of the number of different lines of businesses it was involved in. At the time of the company's break up, it comprised five separate divisions in three areas, energy, transportation, and hotels, and these divisions had been part of the company for a very long time, with PanCanadian as the youngest division acquired in 1971, and CPR as the oldest, since the inception of the company. Second, many of CPL's top management had come from the ranks and so, in fact, did have in-depth knowledge of the divisions. For example, David O'Brien, the President and CEO of CPL was formerly the President and CEO of PanCanadian. Michael Grandin, the CFO of CPL was a director of Fording. William Fatt, one the Executive VP of CPL was the Chairman and CEO of Fairmont Hotels, and the other Executive VP, Ronald Gamey had come over from CP Ships. In any case, CPL determined the cost-of-capital on a divisional basis that was related to the industry each division operated in, and used an external "expert" (Gordon Sick, a professor of Finance at the University of Calgary) consultant to do the actual determination.

The fourth possible cause for the diversification discount is the valuation and effect of real options. Real options represent strategic value that is, in general, not additive. By this, we mean that when two or more real options are combined, the value of the combination may be less than or greater than the sum of the individual values. This has been demonstrated theoretically (Trigeorgis 1993; Gamba, 2002) and when the combined value is less than the sum of the individual values, we say that the real options are *sub-additive*. Furthermore, in practice, the valuation of real options is confounded by the unobservable quantities that are used as inputs into the valuation formula. The final inputs used will therefore tend to subjective and so, the non-additive valuation of real options may also be related to differences in investors' beliefs about the valuation inputs.

Along this line, an argument can be made that the discount in the value of CPL relative to single segment firms is a rational consequence of the combination of pricing at the margin, and investors having different heterogenous beliefs. Consider, for example, two investors, investor 1 and investor 2, and two single segment firms, firm A and firm B. Since the assets-in-place of both firms are observable, with observable accounting histories, both investors are likely to have the same beliefs about the value of the assets-in-place of firms A and B. Say, for example, that both investors believe that firm A's assets-in-place are worth $100 million, and firm B's assets-in-place are worth $200 million. However, investor 1 believes that both firms A and B each have real options worth an additional $100 million, while investor 2 believes that firm A has real options worth an additional $50 million and firm B has real options worth an additional $150. The total value given to the firms by both investors is summarized in table 7 below.

| | **Investor 1** | **Investor 2** |
|---|---|---|
| **Firm A** | 200 | 150 |
| **Firm B** | 300 | 350 |

Note that if firm A and firm B merger, both investors will value the combined (diversified) firm at $500 million. However, it is likely that as single segment firms, investor 1 will be the marginal investor for firm A and investor 2 will be the marginal investor for firm B. This means that as separate (single segment) firms, their combined value would be $550 million and a diversification discount is thus created. One can consider this to be a form of market inefficiency, not in an informational sense, but in a welfare sense. For such a situation, there is no remedy but to separate the two firms and allow them to trade independently.

Finally, there is the argument that endogenous diversification results in an illusory diversification discount. This argument goes something like this: In industries that are characterized by low growth opportunities and high exit rates, firms can decide to remain as single segment firms, diversify, or exit the industry completely. The decision will depend on the profitability and value of the firm's assets. Firms that choose to diversify (acquire or be acquired) start out as average firms within the industry, but with a large number of poorly performing firms exiting, the post-exit industry average is raised leaving the diversified firms trading at an apparent discount to this new industry single segment average value. While this argument might have once applied to CPL, there are two reasons why it would have no longer been applicable by the year 2000. Firstly, by 1997 CPL had divested itself of most of its businesses in those industries characterized by low growth and high exit rates. Secondly, CPL had built its remaining business to be global leaders in their various industries, and these businesses had been around for a long time, surviving the exits of others over the years. Thus by the argument, they should have fallen into fairly high percentiles within their various industries' valuation measures.

From the preceding discussion, it appears that a combination of factors may have likely been the cause of CPL's relative devaluation. There is some evidence of inefficient capital allocation and less evidence of limited coverage by financial analysts. We also see that marginal pricing by different investors in the different industries that CPL operated may have contributed to the diversification discount in its share price.

## 7. POSSIBLE REMEDIES TO THE DIVERSIFICATION DISCOUNT AND THE CPL SOLUTION

Top management at CPL had been aware of the discount on company's share price since the early 1980s. This not only resulted in a loss of wealth to shareholders, it also made raising capital using new equity an expensive venture. Furthermore, there was always speculation that CPL was a potential takeover target. When these facts are combined with the executive stock option plan used by CPL, it is understandable why management was very interested in remedying the situation.

As CPL's diversification discount was based on investors' perceptions, we suggest that CPL had five possible remedies at their disposal.

1. Decentralized management with effective incentive compensation plans
2. Issuance of Tracking Stock

3. Reduction in degree of diversification and increased investor awareness
4. Signaling under valuation through Share repurchases
5. Corporate breakup (carve-out or complete split-up)

The last three of these possible remedies had been attempted by CPL. The first two may have been considered, but were not attempted.

CPL was a highly centralized company with an authoritarian corporate culture. This would probably have added to the perception, if not the fact, of inefficient capital reallocation between subsidiary business units. By decentralizing the top management decisions and, in particular, the capital budgeting decisions, and by implementing effective incentive compensation plans, CPL could have possibly reduced investors' adverse perception of capital allocation inefficiencies. Of course, such incentive compensation plans will generally be second-best, and will likely have to be based on some performance measure other than stock performance.

First implemented by General Motors (GM) in 1984, a tracking stock is a specialized type of stock that is issued by a publicly traded company to track the value of a particular subsidiary business unit of that company. For example, Hughes Electronics, a wholly owned subsidiary of GM, has a tracking stock issued and traded on the NYSE under the ticker symbol GMH. Following suit, CPL could have issued tracking stocks for each of its four non-traded subsidiaries. This would have allowed for independent coverage and valuation while maintaining any benefits of CPL's internal capital markets. Furthermore, acquisitions made by the separate subsidiaries could have be paid for in tracking stock instead of cash or discounted CPL stock.

It has been shown (Comment and Jarrell 2002) show that as firms reduce their degree of diversification and become more focused, they experience increases in their share prices. On average, a reduction of 0.1 in a company's Herfindahl index (a measure of the degree of diversification in a company) is associated with an increased stock return of about 4%. Furthermore, they provide some evidence that diversification makes a company more likely to be a takeover target. As we have seen, since the mid 1980s, CPL had increased the company's focus, drastically reduced the degree of diversification and, built the remaining business units into global players. Unfortunately, this remedy did not appear to work and the share price still suffered from a discount.

If top managers at a firm believe that their shares are undervalued, they can signal their belief by buying back the stock through share repurchases. Undervalued shares make share repurchases a positive NPV operation, and the greater the undervaluation, the greater the NPV. For this signal to work, outside investors must believe that insider managers have much better information about the firm's true value. Since 1996, CPL had engaged in a share repurchase program, annually buying back between 3% to 5% of the outstanding shares. As this had very little impact on the share price and it is more confirmation of adequate coverage and investor awareness of CPL's operations.

The final possible remedy, and the one that ended up being the CPL solution is a corporate carve-out, or corporate split up. By formally disassociating the business units, capital misallocation can be eliminated and greater analyst coverage can be achieved. Better incentives using stock based incentive compensation plans may also be achieved.

We believe that if limited analyst coverage and low investor awareness had been the primary cause of CPL's diversification discount then the share repurchase program should have had an impact on the stock price. Furthermore, under these circumstances, the issuance of a tracking stock may have been a preferable alternative to a complete corporate split up. Although the operating synergies that existed for the CPL had long since dissipated, the financial synergies would still exist unless they were being negated by inefficient capital allocation. As independent companies, the five subsidiaries would have to, and in fact did, undergo capital restructuring and competitive repositioning which resulted in the loss of half a billion dollars in restructuring costs. The most vulnerable subsidiary was perhaps Fairmont, and to reduce this vulnerability, under the plan of arrangement CPL effectively transferred  $700 million in debt from Fairmont to PanCanadian and CP Rail

As demonstrated in the previous section, given the fairly large number and moderate diversity of analysts that covered CPL, it is likely that analyst coverage was not the primary culprit. The evidence of inefficient capital allocation and the possibility of the real option sub-additive valuation, leads us to believe that breaking up the company was perhaps the best alternative the company had to realize the full value of each subsidiary business unit. In summary, since we believe that other factors were key contributors to CPL's diversification discount the, although we disagree with CPL's management on its likely cause, we are in agree with them as to the remedy. However, we must recognize that there was perhaps another "driving force" that may have had a role in the decision of the top executives effect a complete corporate breakup of CPL – executive stock options.

## 8. EXECUTIVE STOCK OPTIONS

Prior to the break-up, CPL had a stock option plan that granted certain executives at-the-money stock options as part of their compensation package. In addition, each option came attached with a one half of a Share Appreciation Right (SAR) where each SAR entitled the holder to a cash settlement equal to the options intrinsic value. The options themselves had a vesting period of two years while the SARs had a vesting period of three years. At December 31st 2000, CPL had 5,699,687 stock options outstanding with exercise prices ranging from \$18.06 to \$ 40.85, and an average of \$30.63. Of all these outstanding stock options, roughly 76% had an exercise price in excess of \$30 and 65% were vested. In the year 2000 alone, 859,800 new stock options had been issued with an average exercise price of \$31.17 and by September 2000, when the RBC feasibility study was commissioned, the CPL's stock price was hovering around \$40.00 per share.

As it turns out, CPL's stock option plan, along with other short-term incentive plans (STIP), provided a powerful incentive for the top management desire the break up the company. Under the proposed break up plan, all outstanding stock options were replaced by separate options to acquire the common shares of the new five companies according to the same fractions of share replacements, with the new exercise prices being appropriately adjusted. More notably, although each set of replacement options had the same expiry date as the original option, the replacement options became instantly vested. The benefits of a break up were three fold:

1. If indeed value was "unlocked" by the break up, then the (net) intrinsic value of stock options held by management would increase by this amount.
2. Options have a concave payoff, which implies that the net time value of the replacement options was worth more than the time value of the original option, possibly more than a 50% increase.
3. Additional value was added by allowing immediate vesting. This additional value is similar to the difference in value between an American option and a European option.

On top of all this, the arrangement plan granted as much as \$2 million in restructuring incentive pay and another \$2 million in operating incentive pay. Consider David O'Brien, the CEO of CPL. As of December 2000, the intrinsic value of his executive stock option holdings was \$6.2 million. In 2001, by virtue of the CPL break up, O'Brien became the CEO of PanCanadian and his total compensation jumped to an incredible \$83.1 million in salary, bonuses and stock option gains!

## 9. THE POST-BREAKUP PERFORMANCE

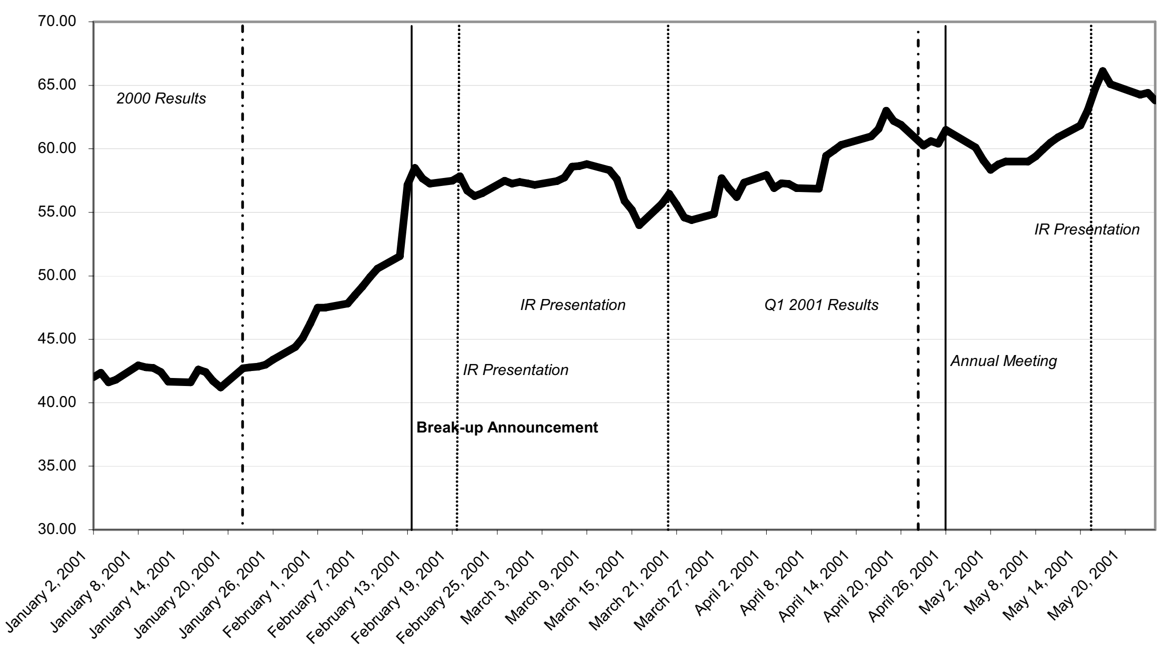
One final benefit we have in analyzing the case of CPL is that we can observe ex-post, the returns of the company after the de-merger to see if in fact there was an increase in the market value of the firm. There are three "event" dates that are important when examining the ex-post performance of the stock.

1. Feb 13th 2001 – the day the proposed breakup was announced.
2. August 21st 2001 – the day the new shares began trading on a "when-issued" basis on the Toronto and New York Stock Exchanges.
3. October 3rd 2001 – the day the new shares were actually issued

Prior to September 2000, when CPL hired RBC Dominion Securities to examine the feasibility of the divisions as stand alone companies, the share price of CPL had remained fairly stable. From the start of January 1999 to the end of August 2000, the share price had averaged about $33.81, with a high (on August 28, 2000) of $42.60, a low (on March 3 1999) of $26.05. By September 2000, investors anticipated the imminent breakup and the shares began to steadily climb to a high of $51.55 on February 12th 2001. On February 13th, the day the breakup was announced the share price jumped by $5.60 to $57.15, an increase of almost 11 percent in one day. The price continued to climb to a high of $66.10 on May 17th 2001 and then retreated to $58.16 on August 20th. The following day, on August 21st 2001, the shares of the five divisions of CPL began to trade on the gray market ("when-issued" basis) resulting in a drop in the share price by 3.5 percent to $56.10 (see Figure 1). From then on it was possible to create a tracking portfolio of the components trading on the gray market. As shown in Figure 5, the price of CPL stock followed the tracking portfolio closely in a gradual decline, although always remaining slightly below. The difference between the two values can be attributed to transactions costs except for on September 11th 2001 when the terrorist attacks on the World Trade Centers in New York caused a steep decline in the general stock market and CPL's share price fell substantially below the value of the tracking portfolio. This can be contrasted with PanCanadian, which until September 11th, had its share price actually trading substantially higher than the gray market price.

On October 2nd, the day before the shares of the newly created companies started trading, the price of CPL closed for a final time at $47.85 while the tracking portfolio had a closing value of $50.15. This climbed to about $60 by the beginning of November and remained around that price for the rest of the year. Therefore, going back past the pre-information era to early September 2000 when CPL was trading at about $40 per share, and comparing this to the post-breakup era of December 2001 when CPL's combined value was about $60 per share, and given that CPL's Beta was very close to zero we see that the diversification discount was roughly of a magnitude of 30%

**FIGURE 1**




## 10. CONCLUSION

This paper examines the possible explanations for the existence and remedies of diversification discounts. The issues raised are considered in the context of Canadian Pacific Limited and its breakup into five components in October 2001. In terms of CPL managements desire to “unlock value,” the breakup has clearly achieved its objective. However, the reason for the discount and its magnitude is not easily explained given the current state of the various theories. The evidence in the case of CPL is mixed, but it is unlikely that it was engendered by limited analyst coverage. We believe that a better understanding of the causes of diversification discounts will perhaps bring to light further remedying strategies that management may employ and to avoid the reliance on breakups in order to unlock value.

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# BEHAVIORAL JOB DESCRIPTION OF PROJECT LEADERS: APPLICATION OF REPERTORY GRID METHODOLOGY

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## ABSTRACT

*This study uses repertory grid methodology to develop a behavioral job description of a project leader in a large software company in India. The model has twelve scales descriptive of effective and ineffective project leaders in the organization. The model indicates that effective and ineffective project leaders are differentiated in terms of professional skills, social skills and personal traits. The model also shows strong similarity to models of effective management, which have been developed in other companies in the industry. This similarity is of special interest given the context-specific nature of the study. The paper describes the methodology and key findings and discusses their implications for developing effective project leaders in the software industry.*

## 1. INTRODUCTION

There is widespread dissatisfaction amongst senior managers in the software industry in India with the performance of software projects. Efforts have been made to identify critical success factors that contribute to project success so that software engineers can focus their attention on these factors to ensure success of projects The experience of senior managers from the industry indicates that technology and technical skills are quite often secondary .A consensus seems to be emerging that failures are caused by the neglect of behavioral and social factors. It has been argued that managerial, organizational and cultural factors rather than technical factors determine the success of projects in the software industry

In the field of management, understanding the behavioral demands on a role incumbent has been a popular research theme. Several studies have investigated the nature of managerial work. This is probably on account of the immense and tangible benefits that emerge out of such studies. A clearer understanding of the behavioral demands not only helps in hiring and training decisions but also designing more effective organizations and improving quality of work life. It is not surprising that a large number of researchers have periodically investigated managerial roles in different work settings as school principals, police chiefs and hotel managers.

## 2. ROLE OF A PROJECT LEADER

The project leader is a key figure in the company and has the responsibility for managing multiple teams working on different projects. Project leaders are required to manage schedules, processes, customer interface and deliver the quality and productivity goals.

Coding and programming is only one aspect of developing software. A typical software project consists of identifying user requirements, designing, coding and testing. There are a number of tasks associated with each of these phases and people with variety of skills work on each of them. The project leader has to assume many different roles and perform a number of diverse managerial functions to meet an assigned project specification within the prescribed budget and schedule constraints. The job of a project leader has been compared to that of a juggler trying to keep all the parts of his project going at the same time. When seen from this perspective the technical portion of his project is a minor one in comparison with the total project.

The project leaders have to cross-functional lines and deal effectively with a variety of interfaces and support personnel over whom they have little or no formal authority. What researchers have found consistently is that the project leaders require skills in the inter-personal, technical and administrative areas.

## 3. APPROACHES TO THE STUDY OF MANAGERIAL WORK

The present study on behavioral demands on the role of a project leader can be viewed in the wider context of research done on the nature of managerial work. There are several approaches to the study of managerial work. The **functionalist paradigm** (Burrell & Morgan 1979) is one approach that has been used to study the nature of managerial work. This paradigm attempts to take objectivist view of the world and assumes that effectiveness is an attribute of the manager, which exists as an objective fact and can be quantitatively measured. This view has been very popular amongst researchers and can be observed in the increasing emphasis of objective output measures in studies of effectiveness.

The social constructionist paradigm is an alternative perspective to study social phenomena. The goal of research from this perspective is to describe and explain shared understanding among social actors. The social construction approach is based on the premise that organizational phenomena are socially constructed and sustained through a process of social interaction among people. As such, effectiveness is viewed as a socially constructed phenomena arising from the interactions of the manager in the course of achieving results through other people. This approach is based on the premise that behavior of project leaders is influenced by social perceptions as well as formal task and organizational requirements. The focus of this approach is on the way in which people in specific settings define effective project leadership. In particular our purpose is to identify and articulate theories of managerial effectiveness in a specific organization.

The social nature of managerial work provides many opportunities for superiors, peers and subordinates to form impressions and make evaluations of the effectiveness of project leaders. People inside the organization make judgments on the effectiveness of project leaders around them based on their subjective experiences of day today interactions.

The study carried out here adopts a social constructionist perspective. The purpose of the study is to describe and explain shared understanding among social actors.

## 4. REVIEW OF LITERATURE

There have been several attempts made in the past to determine the dominant behavioral requirements of persons in supervisory and managerial positions (Stewart, R, 1990) (Cammock et al, 1995)

Early attempts to classify the behavioral demands of managerial jobs include Hemphill's description of ten tasks that vary significantly for different jobs-tasks such as business control, planning, human affairs and asset preservation. The work of Mintzberg (1973) on managerial roles and behavior detailed in his book *The Nature of Managerial Work* is perhaps the best known. His observation of five American chief executives over a one-week period resulted in the identification of ten managerial roles. He distinguishes between a manager's interpersonal, information handling and decision-making behavior or roles. A relatively more recent study by Luthans (1985) categorizes managerial activities as communication, networking, human resources management and traditional management tasks (controlling, delegating, etc). Gary Yukl (1994) recently developed an elaborate scheme to integrate much of the current concepts of leadership found in the literature. His approach draws on broad behavioral categories: making decisions, exchanging information, building relationships, and influencing people.

There is further evidence to indicate that there is variation in the importance of activities relating to the level and function of the manager's position. McCall and Segrist (1980) found that sales managers emphasized the liaison role, manufacturing managers the entrepreneur and resource allocator roles and finance managers the monitor roles. Kotter (1982) who conducted an in-depth study of fifteen managers portrayed a general manager's job as having five dimensions which were not elaborated in the Mintzberg's study: 1) personal aspects 2) job content 3) job demand, 4) job context and 5) job behaviors. He suggested that the two core behaviors of all successful managers were setting up agendas and then building networks to implement these agendas.

A separate stream of research to understand why some people are successful and productive and others are not has been carried out under the rubric of competency models. Psychologists have found that the brightest and the best do not always succeed .So how can we predict who will succeed and make the best choice about people and jobs.

People who excel at their jobs demonstrate behaviors that distinguish them from their peers. Directing these behaviors are competencies which we define as underlying personal characteristics that differentiate outstanding performance from average performance in a given job, role, organization or culture. The different types of competencies can be depicted as different levels of an iceberg. The upper levels are easy to see but they do not typically predict or determine star performance. It is the deeper levels of competencies that direct people's behavior, and thus their performance.

In a path breaking piece of work David McClelland (1973) argued that organizations should test for competence rather than intelligence. He summarized a number of studies which showed that aptitude tests which had been traditionally been used by psychologists to predict performance did not work. The reasons are

- They were not predictive of job performance
- They were often culturally biased
- Other measure like examination and references were equally poor in predicting success.

McClelland set out to find an alternative to the traditional aptitude and intelligence test. He labeled these alternative variables as a competency. A competency is an underlying characteristic of a person which enables him to deliver superior performance in a given job, role or situation. Competencies are like an iceberg, some visible and some invisible, and are arranged in a hierarchy. The different levels of competencies are skills, knowledge, social role, self-image, traits and motives. It is important to distinguish the different levels because they have significant implications for selection and promotion of people in organizations.

Robert Kelley (1999) studied star performers and his book "How to be star performer at work" is a best seller. The research team asked top executives, middle managers and other researchers at Bell labs what makes for the difference between star performers and average performers. These interviews helped them to develop a list of 45 factors that managers and star performers believed led to star performance. In order to figure out which of the forty-five factors separated the stars from average performers they put 200 persons from Bell Labs through a two-day meeting where they were administered a battery of tests. An analysis of the data led them to the disappointing conclusion that there was no appreciable difference in the cognitive, personality, social or environmental differences between stars and average performers.

It appeared that most people believed that star performers are better in a fundamental sense. Average performers they assumed lack the traits necessary to leap above solid steady work. The significant conclusion drawn from this study was that work behavior and work habits are the hallmark of stars.

### 4.1 The Context

The Indian IT industry has been growing at a fast pace and the industry aggregate revenues have reached US$28.2 billion. The industry is forecast to grow more than fivefold over the next five years (2005-2010) at a compounded annual growth rate of 28%(NASSCOM, 2003). Many organizations in the software industry are familiar and have seen the results of promoting the best programmer to a managerial role with extremely poor results, often resulting in an unhappy employee as well. The competencies that delivered best performance as a programmer, does not necessarily make for great performance as a project leader, and may positively get in the way. For example, the drive to personally produce the most elegant piece of software may interfere with delivering results through other people- which is what the project leader has to do.

Indian software organizations suffer from an acute shortage of good project leaders. This is because a software engineer after three years of experience prefers to migrate abroad in order to get a better exposure to working in an international environment. As a result the available pool of engineers with three years experience is declining and a major challenge is to retain people with this profile.

In order to deal with this problem software development organizations in India tend to do either of the following and sometimes both

1) Promote software engineers at an early stage of their career and require them to take on the role of a project leader
2) Deliver leadership development programs with the aim of familiarizing participants with the knowledge, skills and attitudes required to be an effective team leads

The study reported here was based on the need felt by a software development organization to provide a development experience that will enable their senior software engineers to make a transition to the role of a project leader.

## 5. RESEARCH OBJECTIVES

Identifying software engineers who have the potential to be project leaders is a major challenge for Human Resources Departments. The complex nature of the role and the wide range of activities involved in managing projects make identification of people who have the necessary talent a difficult job.

The main objective of the research study was to find out how senior managers who constitute the sample of respondents for the study view and perceive what constitutes the qualities of an excellent project leader. In relation to this objective there were several other considerations, which had to be addressed in choosing a research methodology.

The first consideration was that the definition of “effective” must be specific to the company and the context of the organization’s culture and must emerge out of data gathered from the interviews.

The second consideration was that participants in the interviews must base their comments based on their own experience because it was considered important to gather what is being done or has been done in the past by software engineers that has been seen as value adding to the project.

The third consideration was that the methodology for collection of data must not inhibit the exploration of ideas, which emerge during interview stage.

The fourth, the research technique must be free from observer bias and should influence the research participants as little as possible. The questions should allow for responses based on the participant’s observation and experience.

### 5.1 Setting

The present study was undertaken in a leading software development company in India. The parent company marketed a range of microcomputers, network connectivity products and software solutions. The software division was spun off as a separate company. The software division then subsequently set up several development centers in Bangalore, Calcutta, Delhi, Hyderabad. The company was involved in setting up software labs, providing remote maintenance, and also executing turnkey projects. The study on exploring the profile of a successful project leader was part of a larger project in helping the company to become a learning organization.

### 5.2 Methodology

The study was conducted in a large software company with whom the author was associated as a consultant. The software industry provided an ideal setting for the study given the great interest that growth in the sector has generated in India. An additional reason for choosing this company was its desire to help software engineers make transition into managerial positions so that the company could provide long-term career opportunities for its employees and also reduce the attrition, which is endemic to the entire industry.

The sample of respondents for the interviews represented 25 senior managers of the company. The sample comprised a majority of senior managers and given that the objective was to look at competencies of project leaders, the size of the sample was considered adequate and representative of the company as a whole.

### 5.3 The Interview Process: Repertory Grid Technique

The major objective of the study was to identify how senior managers in the company who recruit, reward and promote project leaders defined effectiveness. In addressing this purpose the intention was to bring to the surface theories of the respondents themselves rather than reflect the views of previous research or our own preconceptions. To this end we employed the repertory grid technique a semi-structured interview technique that is largely free of observer bias.

The repertory grid technique has been thoroughly described elsewhere (Bannister & Mair, 1986, Brown, 1992, Ginsberg, 1989). The technique was developed by George Kelly (1955) and is based on Kelly's personal construct theory. Kelly proposed that maturing individuals develop personal construct systems to comprehend their world in meaningful ways. Personal construct systems determine the way in which individuals construe the people, objects and events, they encounter in their experience. Constructs are evaluative bipolar dimensions and form a part of hierarchical system in which they are linked in subordinate and super ordinate relationships.

The people, objects or events that provide the focus of an individual’s personal construct system are called elements. In the repertory grid interview, the interviewer explores aspects of the individuals construct system by presenting them with specific set of elements. In this study all of the elements presented in the interviews were related to managerial effectiveness. By exploring the respondents construct systems we were able to thoroughly and non-directively build an understanding of their unarticulated theory of effectiveness.

The repertory grid interview approach used in the study proceeded as follows:

The first step is to obtain the elements. While individual elicitation is useful when dealing with individuals or case studies, when used with a sample it produces such varied responses that they may be impossible to combine in order to produce generalisable results. One method of overcoming this difficulty is to impose a standard set of elements. Interview subjects were given nine index cards and asked to write the names of specific individuals conforming to the description provided by each element on each card. The six interview elements were:

- Two most effective project leaders
- Two least effective project leaders
- Two developers with potential to be promoted as a project leader

The second stage was to elicit the constructs. This can be done in a variety of ways. In the Kellian tradition, the triadic comparison method was adopted. Three of the elements were chosen at random and the interviewees were given the following explanation.

> “Please look at the three persons listed on the cards. Take each one in turn and think of what makes him good/bad as a project leader. Think of the way he functions as a project leader and the qualities and skills he possesses which makes him good/bad as a project leader. In terms of the way they function as project leaders two of these people will be alike and slightly differ from the third .Can you tell me which two are alike.”

The actual choice of the subject is irrelevant because it is only a step towards the important question “in terms of other qualities, skills or behavior in what way are they alike? The answer to this question provides the first construct. This process is repeated with other random sets of triads until the subjects have produced enough constructs or begin to repeat themselves. As additional constructs were elicited, the centrality of specific constructs was identified using the laddering technique. This involved asking questions about implications of a particular construct and its role in the construct system. The question “why is that important and tell me more about that” was used to ladder up and ladder down the respondent’s construct system.

All respondents interviewed were presented with the full element study. Overall the interview process generated over 150 bi-polar constructs each descriptive of most and least effective project leaders within the company.

The third stage is to analyze the constructs and look for similarities and patterns. The constructs provided useful data on how people in the company define an effective project leader. Since the time involved in conducting the interviews was high, it was not possible to use the interview methodology on a wider sample of people in the company. The interview constructs were therefore used to develop a questionnaire that could be used for self-assessment by a larger sample of respondents.

Since the number of constructs were too many they had to be categorized into discrete categories .In order to minimize observer bias in the process of categorization the following procedures were used:

1. The constructs were transcribed from the notes on to index cards

2. Two judges were asked to sort all the constructs into categories in which they were judged to be similar. The results of this process indicated the presence of a high degree of consensus amongst the judges on the number of categories and the allocation of constructs to each category.

3. The judges were asked to agree on a set of construct categories. Discussing linkages and overlaps between the cards did this. At the end of this process the judges agreed to a set of 12 categories to which all questionnaire items were allocated.

4. Dropping redundant constructs reduced the total number of items in each category. This was easy since several people used the same words. Also a construct for which the meaning was ambiguous was dropped.

## 6. FINDINGS

The principle objective of this study was to explore how senior managers in a software development company define effectiveness of a project leader and to see if this could be presented as a model of effectiveness.

In this section we will describe the three-factor model and the twelve scales, which describe an effective project leader. The definition below combines the item descriptions to provide an overview of the most and least effective project leaders. Collectively they represent a rich description of the definition of an “effective “ and “ineffective” project leader shared by the respondents.

**Effective Project Leaders** are confident of their technical knowledge and are committed to a project and willing to undertake whatever tasks are required to be done for completing the project. They have high energy levels and put in long hours of sustained work without guidance and supervision. They also have the capability to think in clear and simple terms and can come up with new ideas and solutions and do not depend on tested and tried ideas only. They are sociable and friendly and can get along with a variety of people. They are cool-headed and display good judgment when under pressure.

**Ineffective Project Leaders** get bogged down in details and have difficulties in prioritizing their actions. They are not able to relate to the needs of the customer and see their needs as an intrusion on the development process. Their communication is generally not clear to the audience for whom it is intended. They often have difficulty in stating or writing down key points regarding an issue. Their interests are primarily confined to coding and programming and they have a limited understanding of customers and competition. They often do not adapt behavior to situations and show resistance to new work processes. They micro manage projects and team members are not authorized to use own judgment and expertise. They tend to put the blame squarely on individuals in the team when things go wrong.

A more detailed description of effective and ineffective project leaders based on the twelve scales is given in Table 1. The twelve scales that describe project leaders in the software industry are

**1. TECHNICAL KNOWLEDGE**

He is very confident of his technical knowledge. He has good grounding in the fundamentals of the technology in which he is working whether it is Oracle or Visual Basic. He is also competent in programming languages.

**2. CREATIVITY**

He can think of a variety of possibilities when confronted with a problem. He is not overtly dependent on the manuals. He can come up with new ideas and solutions and does not depend heavily on tested and tried ideas only. He has an open mind and has no difficulty in working on other's ideas and build on it.

**3. CLEAR THINKING**

He has the capability to think in a clear and simple manner. He knows what questions to ask. He does not get overwhelmed in a problem situation by thinking of too many alternatives. He can narrow down choices by eliminating situations that may not arise.

**4. ACHIEVEMENT ORIENTATION**

He has high energy level and has a strong need to master the software and will work on problems which interest him even if they are not referred to him. He is prepared to take up responsibilities on his own without waiting for others to tell him. He is strongly committed to his area of work and can put in long hours of work. He needs minimum of supervision and guidance.

**5. COMMUNICATION**

He is strong in verbal communication. He is articulate and can describe the activities on which he has been working in detail by giving examples. He also documents his experiences in sufficient detail and with clarity.

**6. PLANNING**

He can anticipate problems at the development stage itself. Ensures that the required specifications and work breakdown schedule is ready before starting work on a project. Adheres to standards and follows coding, discipline and accepted practises. Shows judgement and keeps project manager informed of critical developments in terms of work assigned to him.

**7. METICULOUS**

He has the ability to focus attention for hours together without getting distracted. He has an eye for detail and is quick in locating faults in a program. He conforms to established work processes and insists on such conformity within his team, as well

**8. LEARNING ABILITY**

He is quick to learn. Picks up technology and skills fast even if the specific area is new and he has no exposure or experience of it. He is inquisitive by nature and is willing to learn and go into depth in a subject area.

**9. RESULTS ORIENTED**

Is committed to a project and willing to undertake whatever tasks - even non-technical, that are required for completing the project.

**10. TEAM PLAYER**

He is sociable, friendly and can get along with a variety of people. He is jovial and can create fun and frolic in the team and enthuse others and still keep up to task commitments.

**11. PERSPECTIVE**

He has varied experience in data processing and languages in which tools are being developed. He has an appreciation for all stages of the software development life cycle. He also has an interest in getting exposed to design patterns, functional areas and user industries. Will not confine himself to pure coding.

**12. STRESS**

He is cool headed and calm and displays good judgement. He does not make the wrong compromises. He will not sacrifice testing for coding when faced with time pressures. He does not make mistakes when under pressure.

The twelve categories represent the dimensions which respondents in the company use to define an effective or ineffective project leader. The dimensions describe a project leader's response to different job situations. Some dimensions describe behavior while others describe personal characteristics.

A comparative analysis of effective and ineffective project leaders is summarized in Table 1.

## 7. DISCUSSION

Earlier in the paper we argued that developing a behavioural job description for a project leader in the software industry provides several benefits to senior software engineers, project leaders and the organizations employing them. David McClellend (1973) takes the position that "definitions for various competencies which contain real life examples of more competent behaviour provide specific guideposts to how to develop the competency. The feedback information also provides a basis for career counselling or explaining why a person should or should not be promoted"

**TABLE 1:**
**Effective and Ineffective Project Leaders**

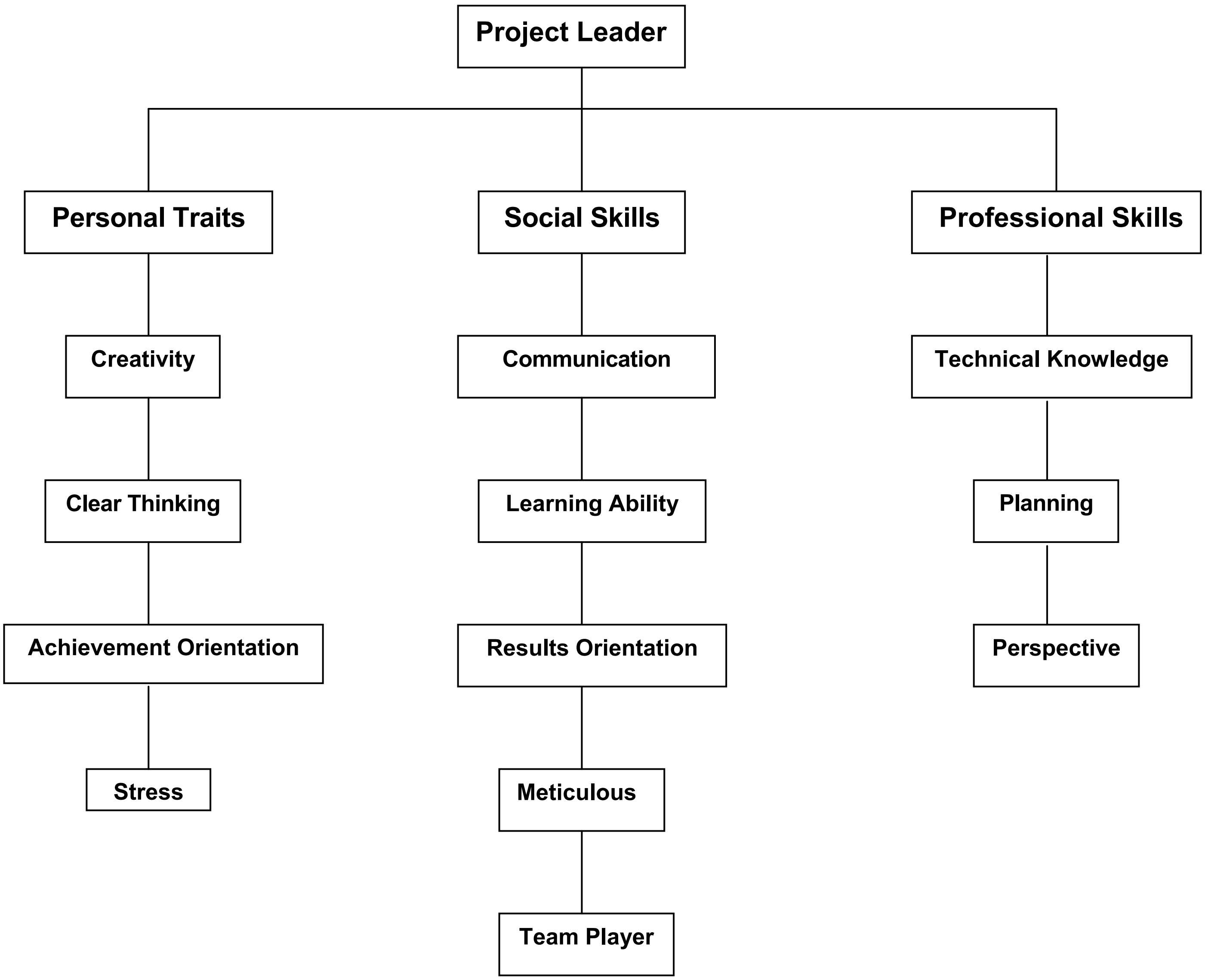
| Effective Project Leaders | Ineffective Project Leaders |
|---|---|
| **Technical Knowledge** | |
| He is very confident of his technical knowledge and keeps himself up to date with the latest developments in his own field | Meets immediate objectives by applying current knowledge of specialization |
| **Creativity** | |
| He can think of a variety of possibilities when confronted with a problem. Applies ideas from outside own discipline within own area to improve performance | Rarely questions the efficiency of processes or makes recommendations for improvements. Unable to produce fresh ideas in response to problems/opportunities |
| **Clear Thinking** | |
| He has the capability to think in a clear and simple manner. He can quickly focus on key issues and priorities and generate practical solutions | He is overwhelmed by a problem situation by visualizing all possible alternatives. Frequently makes decisions in a vacuum without gathering facts or utilizing other's expertise. |
| **Achievement Orientation** | |
| He has a high energy level and can put in sustained effort for long periods. He needs minimum supervision and guidance. | Does not consistently deliver results. Needs a great deal of guidance on what to do and when |
| **Communication** | |
| He is strong in verbal communication. He is articulate and can express complex ideas in a concise and easy to understand manner. | Communication is generally not clear to the audience for which it is intended. Often has difficulty in stating or writing key points regarding an issue. |
| **Planning** | |
| He can anticipate problems at the development stage. Anticipates the need for alternative courses of action and implements contingencies in response to frequently changing demands. Tracks project status and risks at all times. | Has difficulty in prioritizing actions. Focuses exclusively on the task at the current moment and does not think beyond the immediate. |
| **Meticulous** | |
| He is organized, methodological and process oriented. Relies on tested methods rather than getting by in the short run. He is exposed to and has an appreciation of software engineering techniques and practices | Does not consistently provide quality service to customers. Lacks process orientation |
| **Learning Ability** | |
| He is quick to learn and picks up technology and | Often does not adapt behavior in response to |

| | |
|---|---|
| skills fast even if the domain area is new to him | current situational needs. Shows resistance in adjusting to new work processes and task requirements. |
| **Results Oriented** | |
| Is committed to a project and consistently meets deadlines and achieves agreed objectives. | Tends to focus on one task to the exclusion of others. Does not effectively monitor the activities of team members |
| **Team Player** | |
| He is sociable and friendly and can get along with a variety of people. Ensures individuals are clear about their roles in the team. | Fails to build consensus in the team; key objectives of the project are not understood or acted upon by team members. Ignores team dynamics and allows one or more team members to unduly influence others. |
| **Perspective** | |
| He has varied experience and displays good understanding of general business principles. Displays interest in understanding market and competition. | His interests are primarily confined to coding, programming and he has a limited understanding of market and competition. |
| **Stress** | |
| Has a high level of drive and ambition. Puts in extra time and effort when required. | Lacks drive and ambition. Goes to pieces under pressure and gets priorities mixed. |

The profile discussed above helps us to contrast effective and ineffective performance of a person holding the position of a project leader in a software development company.

The findings presented in this paper provide a model of effectiveness of a project leader in terms of three streams of competencies .The model is presented in Table 2.

**Table 2**
**COMPETENCY MODEL: PROJECT LEADER**



**7.1 Personal Traits:**

Project leaders need to have personal traits like clear thinking, ability to work under stress and creative thinking abilities.

**7.2 Social competence** The project leader has a critical role in coordinating the work of several developers in his team. Project leaders have to cross-functional lines and deal effectively with a variety of interfaces and get support and buy in from people over whom they have no formal authority. The competencies that they require in this domain are strong communication skills, results orientation, process orientation and team management skills.

**7.3 Professional competence**

The project leader needs to have a good knowledge of the methodology of the software development process and needs to effectively apply technical knowledge to solve a range of problems. He needs to have the ability to define and document requirements so that the team has a better chance of developing the right product at the end of the day. He is required to have an appreciation of various development life cycles and methodologies and an understanding of expectations at each phase.

While identification of traits is useful in its own right, research by Buckingham (2005) has indicated that competencies may not be trainable and developed by an individual no matter what the level of personal effort. In preparing a development plan care needs to be given to focus on using one's competency strengths rather than spending time or resources in trying to convert ones weaknesses to strengths. They have observed that high levels of energy and motivation are brought to the surface when individuals are focussing on using their strengths

## 8. IMPLICATIONS FOR SELECTION, TRAINING AND DEVELOPMENT:

As the discussion earlier suggests behavioral job descriptions can provide very useful information about people and jobs. It adds another dimension to the traditional categories of level and function. Some of the areas where behavioral job descriptions have the greatest utility are:

**8.1. Training and Development**:

Every project leader during his annual performance appraisal becomes aware of a gap between current and desired performance. This gap is a training need to be filled by Human Resources Department. A behavioral job description can prove very useful in defining this gap more precisely. The Human Resources Department may like to compare the performance of a person whose behavior falls short of the job's requirement with profiles of effective jobholders. Large differences between in the profiles could form the basis for deciding what type of training the jobholder should seek. For example, picture a project leader who makes little contact with either his team members or the client. A comparative profile may point towards training to improve this individual's client interaction skills or to facilitate his interaction with other developers on his team.

Professional trainers could also find the profiles useful in designing personal and professional development programs. Project leaders who score similarly on most or all dimensions could be grouped together in modules that suit their common needs. Thus, a group of project leaders would not be required to go through a training program on communication skills because the training manager assumes that all participants have an equal need for honing these skills. Instead only those people whose profiles suggest that lack communication skills may be recommended for such training. This type of selective training would save time and resources that companies in the software industry can ill afford to waste given the intense competitive pressure that they face.

### 8.2. Selection

Those who participate in selection decisions can appreciate how a job's behavioral requirements can derail a person even though he has all the requisite technical qualifications. The behavioral job description can be very useful in evaluating two or more candidates for a given job. This can be especially useful if managers who have helped in developing the profile participate by indicating which behavioral aspect they consider crucial for success. The profiles help in developing a consensus amongst the members of the interviewing panel and can help in doing interviews that are focused and useful, both, for the company and the candidate. Executive recruiting firms can also use the information provided by the profile to screen people they are considering for introduction to their client organizations. Thus the headhunter can make sure that the candidate he or she presents have the appropriate behavioral credentials as well as the functional competence that interviews and résumé's reveal.

### 8.3. Career Planning:

A manager can use the information available in a behavioral job description to gain a better understanding of specific job moves. For example, being good at managing people may be a necessity for a person at the Project Leader's level but may be less essential for a position that requires testing software. A manager may like to consider such information when thinking about potential job moves. So too would organizations for whom transfers and relocations are expensive and often inconvenient. The behavioral job descriptions provide a useful way of thinking about sequences of job assignments and possibly designing more systematic sequences. In today's organizations if a project leader is able to articulate his strengths and weaknesses as a person and professional, his credibility and value to the organization goes up.

## 9. CONCLUSIONS:

Thinking about jobs in the software industry in terms other than function or level has become increasingly important especially in the context of flat hierarchies and the requirement to be flexible in the face of numerous uncertainties. The emergence of the network form of organization makes the Behavioral job description an especially useful tool in making explicit statements regarding the requirements for success. They can serve as a useful tool in designing custom made programs that deliver greater value to the company and the project leaders who may attend such programs

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# MANAGEMENT ACCOUNTANTS IN THE 21ST CENTURY BUSINESS ENVIRONMENT

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## ABSTRACT

*The 21st century environment for corporations is moving away from the shareholder focused environment. Concepts such as: corporate social responsibility, corporate social performance and the stakeholder view of decision-making and control, are being accepted by many as the appropriate approach to the business form that has been created by society. This paper explores these concepts and questions the role of management accountants in this new environment. The need for new types of information to be produced for management decision-making is recognised but it is not yet possible to provide definitive answers concerning what new forms of information are required.*

***Key words:*** *Corporate Governance, CSR, CSP, stakeholders.*

"For as long as business corporations have existed, their role in the economy and society has been a focus of attention and debate. The power of the corporation to influence the pattern of economic, social, and political development – along with its sometimes negative impact on specific employees, customers, and communities – has regularly been weighted against the capacity of the corporation to create wealth… *To whom and for what is the corporation responsible?"* (Post, Preston and Sachs, p. 254).

## 1. INTRODUCTION

With changes in technology, speedier communications and the public's demand for more open and transparent corporate governance, the role of business in society must change. In universities, before we study the techniques of Management Accounting for decision-making and control, it is necessary to establish what the purpose of business should be. In this paper we start with a brief history of the development of the traditional model of corporate governance that evolved in a business environment dominated by economic theory. The rise of the large business corporations over the 19th and 20th centuries is described, with special reference to their relationships with the wider host societies that allowed their development. The fact that the present relationship of business activities to society is viewed differently by different stakeholder groups is illustrated. Problems with the theoretical model of corporate governance and business practice are explored. The concepts of Corporate Social Responsibility (CSR) and Corporate Social Performance (CSP) are discussed. We argue that management accountants must develop their role as providers of decision-making information in order better to serve businesses that are evolving in the new environment.

## 2. THE DEVELOPMENT OF CORPORATE GOVERNANCE

Economics theories have been major drivers of Western societal development since the late 18th century. There was little written on economic theory before the moral philosopher, Adam Smith, produced '*The Wealth of Nations*' in 1776. Smith refers to an "invisible hand" that others, such as Milton Friedman, have since claimed, ensures society will translate self-interest into societal-interest; it will best ensure that members of society are given, collectively, what they want. Smith's book is quoted in almost every contemporary introductory economic text.

In Smith's time corporations were relatively few and relatively small. Smith did not envisage the sole traders and small business collectives of his time being able to influence the functioning of the market in any major way. Businesses had to accept the messages given to them by the omnipotent market forces that he observed to be operating. Nevertheless, Smith was critical of what the market forces he described were bringing to society:

> [Smith] laments the “gross ignorance and stupidity” that afflict the workers “in a civilised society”… A person who spends his life “performing a few simple operations” slowly “becomes as stupid and ignorant as it is possible for a human being to become,” incapable of “any rational sentiment, and consequently of forming any just judgement concerning many even of the ordinary duties of private life”… This seems to be the lot of “the great body of people "in "every improved and civilised society" (Griswold, 1999, p. 17, words in quotations taken from Smith, 1776).

In the 18th century business enterprises were characterised by the investment of one person, or a small group of persons; the owners of each business employed a few workers who lived locally, the suppliers and the customers were local people. During the following century the economic structure of small, ostensibly powerless firms, governed primarily by the market place, gave way to the presence of large corporations that had great power in society. Nonetheless, these companies were in the main closely held, with founders holding great sway in their business activities.

That situation has changed during the course of the last 100 years. There are now many large organisations that have considerable influence over much of the world. Powerful corporations have taken profits from parts of the globe that could not properly afford to provide them. One such example is the island state of Nauru, from which phosphate was mined. The taking of the one natural resource, and resulting damage to the environment, has left this society dependant on outside funding for its survival. Nauru’s government appeared unable to prevent terrible environmental developments, and tragic human developments.

Post *et al*., (2002) comment, "The contemporary large, professionally managed corporation – often with global scope and sales greater than the total output of some nation states – cannot be viewed as a microscopic enterprise at the mercy of market forces and government policies" (p. 230). Enron (Vallette and Wysham, 2002) provides an example where those in business have appeared able to manipulate decision-making in other countries, through control of economic and political processes, to its own short-term advantage. Elkington (1998) asks:

> On the use of market mechanisms… to deliver improved performance against environmental and broader sustainability targets... the center of gravity [is shifting] from the world of government to the world of business... Are business leaders and major corporations ready for the impending challenge? (p. 100).

One wonders if the educational systems that are nurturing the next generation of business leaders are yet equal to this challenge. “As we move into the third millennium, we are embarking on a global cultural revolution. Business, much more than governments or non-government organizations, will be in the driving seat” (Elkington, 1998, p. 3). The problem is the extant belief of some that Business is about the creation of economic value, and not about social or ethical values. Elkington suggests, “This is not particularly surprising: a full generation of business leaders have been taught to stay out of politics and that they meddle in the affairs of governments (even oppressive regimes) at their peril” (p. 7).

Since its inception, the marketplace has done a reasonable job of deciding what goods and services are produced, but it has not ensured that businesspeople always act fairly and ethically. The conditions that some early factory workers were required to work under in the 19th century were horrific. Legal rules were introduced to terminate some of the worst practices. In the first half of the 20th century the responsibilities of firms for employee welfare were developed, partly as a defence against more state intervention in this area. Carroll and Buchholtz (2000) suggest, "The main motive for corporate generosity in the early 1900s was essentially the same as it has been in the 1990s – to keep government at arm’s length" (p. 31).

In the 19th century, a number of corporations gained national status and power in the Western world. In the 20th century some corporations obtained international power, and in the latter part of the 20th century they introduced a global dimension to business decision-making. However, many business people and academics continued to view the business world, and society in general, from a perspective that was perhaps better suited to the understanding of a bygone world. The world has changed enormously since the time of Adam Smith's writings.

In early businesses the owners/investors, the directors and the managers were often the same small group of people. Over time the business organisation has evolved and large powerful businesses are rarely the sole property of the founder, a family group or any small group of people. Ownership and control have been separated. Large corporations have thousands of shareholders who "own" them. However, the nature of this "ownership" has changed:

> The ownership status of individual shareowners… is largely an artifact. The shareholder cannot actually *do* anything with any part of the corporation… even the ability of individual shareowners to gain information about a company, or to raise questions about the operations, is severely limited….. obviously most large corporations need not (and do not) manage themselves primarily for the benefit of individuals who are in this passive and often indirect ownership role (Post *et al*., 2002, p. 15).

The traditional model has business directors on corporate boards. The directors are “theoretically” chosen by the many investors to look after their common interests. Investors are referred to as shareholders. Full-time managers are employed to take care of the everyday management issues. Managers report to directors, who report to shareholders. Carroll and Buchholtz (2000) state:

> Everyone knows about boards that don’t work. At GM, IBM, Westinghouse, K-Mart, Digital Equipment Corporation, and other corporate giants, the board seemed to stand idle as billions of dollars in market value went down the drain. The public failure of those boards triggered widespread cynicism about whether corporate boards could ever be more than rubber stamps (p. 554).

Board members typically receive meeting fees, stock options and pensions as well as their basic fees. The traditional model was further strained in the 20th century because many companies appointed inside directors to serve on their boards. Inside directors are individuals who hold both positions in senior management at the corporation, and sit on the board to which the management is responsible. In fact it became extremely common in the United States for one person to hold the dual roles of Chair of the Board and Chief Executive Officer simultaneously. Courtney Brown is an experienced director who served on many boards; he has stated that he, "never saw a subordinate officer serving on a board dissent from the position taken by the CEO" (Carroll and Buchholtz, 2000, p. 556). Although in many companies the number of outside directors has grown in recent years, many of the outside directors are such people as: the company’s banker or lawyer, management consultants, or close friends of the CEO. Such people are not well suited to the independent watchdog role demanded of them by the traditional model.

In recent years shareholder groups have started to question the relevance of the traditional model to their world. They have complained of: managers' lack of accountability to them (or anyone), the inefficiency of their boards of directors, and the excessive compensations paid to managers and board members. The last issue, in particular, raises significant shareholder concerns. “A generation ago, average CEO pay at major corporations was 40 times the pay of the average worker. Today it is 500 times the pay of the average employee.” (Treviño and Nelson, 2004, p. 194).

These shareholder groups are of two main types: large institutional investors such as the Vanguard Group, which sent a letter outlining its expectations of the 450 firms in which it held shares (Treviño and Nelson, 2004), and a growing number of social activist groups such as shareholder associations. Both are dissatisfied and are demanding better treatment from management. They believe management has largely ignored them. They are demanding changes, including changes in management if necessary. Corporate managers have neglected the owners of their businesses in a manner not anticipated by the traditional corporate governance model. Management and boards of directors have been preoccupied too often with their own self-interest rather than the interests of their shareholders. The division of ownership into millions of shares has left no party able to exert effective external control over the corporations.

Boards of directors have become obligated to the managers, whom provide the source of their rewards. In many cases managers have been allowed to manage their corporations for personal reward. However, although there is much recent evidence of such behaviour it is not encountered everywhere. Some corporations have been able to evolve much more satisfactory corporate governance systems for the benefit of all concerned. Nonetheless, many managers have no wish to introduce more socially beneficial systems of governance because they have profited personally from the traditional system; it is understandable that they would hope for it to continue.

Recently businesses have become subjected to careful scrutiny from members of the societies that permit their privileged existence. The actions, practices, policies and ethics of managers have become more transparent in the global electronic age, and as a result, greater scrutiny of such actions has enabled the assignment of blame. Corporate failures are no longer "just one of those things": investors in particular and societies in general now wish to have their "stake" in the ongoing success of a business recognised by managers. Managers must accept that businesses are societal constructions, and that managers have an obligation to create benefits for the members of their host society. Corporations that are managed selfishly to benefit a limited number of individuals may become illegitimate institutions in the emerging 21st century environment.

Post *et al*. (2002) provide what is perhaps an even more extreme version of this message:

> The corporation cannot – and should not – survive if it does not take responsibility for the welfare of all of its constituents, and for the well being of the larger society within which it operates. The contractual agreements and government regulations it must follow are not always enough (pp. 16-17).

In the above quotation a responsibility of managers to society is described, which exceeds management's responsibility to the shareholders. This further responsibility is recognised in the CSR approach to corporate governance. Aligned to CSR is the concept of Corporate Social Performance defined by Carroll (1979) as a discretionary activity on the part of management such as philanthropy or voluntary payments made to further social involvement.

## 3. THE CSR APPROACH TO CORPORATE GOVERNANCE

The business processes employed in the management of 20th century businesses were responsible for many economic and financial successes. However, the performances of managers in some scandals of the 1980s and 1990s provide cause for concern, not only in the economic sphere but also in matters of the environment and social justice. There were demands from many in society for closer scrutiny of management decisions and for more accountability from managers for their actions. Increasingly less tolerant shareholders started to ask managers to explain: high executive compensation packages, plant closures, golden parachute agreements, environmental failings and similarly perceived abuses of power. Other groups that are associated with large corporations, such as employees, customers, suppliers and Non Government Organisations also started to demand explanations from the senior managers and boards:

> As the public learns of corporate directors who claim to have no knowledge of admitted bribes, unlawful political contributions, and other chicanery, the question being raised… is "Who governs the corporation?" …"Is corporate management really responsible to anyone except itself?"… "Who governs the giant corporation, and for whom is it governed? The shareholders? The management group? The directors? Other stakeholders? The government?" (Carroll and Buchholtz, 2000, p. 550).

The questioning environment that has evolved around large business corporations heralds a new age in corporate governance. The issue is whether "business has social as well as financial responsibilities." (Treviño and Nelson, 2004, p. 30). Senior managers are under pressure to demonstrate that their companies are socially responsible corporate citizens. According to Carroll and Buchholtz (2000):

> Only a few businesspeople and academics argue against the fundamental notion of CSR today. The debate among business people more often centers on the kinds and degrees

> of CSR… Among academics, economists are… [most strongly] against the pursuit of corporate social goals. But even some economists no longer resist CSR on the grounds of economic theory (p. 39).

An increasing number of corporations recognise the need to be responsive to individuals and groups they once viewed as powerless and unable to make claims on them. These individuals and groups are termed “stakeholders”.

**4. THE STAKEHOLDERS’ VIEW (SHV) OF DECISION MAKING AND CONTROL**

The SHV broadens the relevant range of corporate performance criteria beyond short-term profitability and growth to include the long-term interests of multiple stakeholders that are recognised as being critical to a corporation's success. Once the relevance of the stakeholders to the success of a corporation has been recognised, it follows that the inter-relationships with the stakeholders must be managed. Stakeholders include “any individual or group that has one or more stakes in an organisation. In other words, a stakeholder is an individual or group that can affect or be affected by business decisions or undertakings.” (R. E. Freeman (1984) as cited in Treviño and Nelson, 2004, p. 196).

Stakeholder management requires senior corporate managers to obtain an understanding of the concerns and goals of all relevant stakeholders. These matters must then receive knowledgeable and respectful consideration by corporate management. Effective stakeholder management involves organisation-wide core commitments to humanistic values, continuous learning, and adaptive behaviour. To allow this, corporations must develop: an appropriate organizational structure, relevant strategies, and appropriate practices. There must be a corporate acceptance of the integrity of other organizations and interests, and the general public. Commitment and learning become essential to the creation of organizational wealth through stakeholder management.

It may be that, if properly implemented, stakeholder management will provide better societal outcomes to the public. However, the public itself is rarely well represented at board room tables. Various pressure groups in society may find their way to the board room tables simply to participate in an oligopoly of power that continues to under-recognise the equitable requirements of the general public.

The best of managers must work hard to prevent such outcomes. It must be recognised that not every stakeholder wish can be granted. Reasonable attempts of various groups of stakeholders to exert force on the corporation have to be recognized as legitimate, even when the actions requested are not conceded to. Post *et al*. (2002), optimistically suggest that:

> Stakeholder-oriented firms often seem to be motivated by normative considerations that underlie a pervasive organizational commitment to humanistic values for their own sake. Both the rhetoric and the actual practices of these firms reflect recognition and respect for the integrity and intrinsic merit of the individuals and groups with which they come into contact (2002, p. 79).

In the early 21st century environment some managers continue to observe business life through the traditional corporate governance model. To think in terms of the stakeholder model increases the complexity of decision-making. It is difficult for some managers to decide which stakeholders’ claims should be given priority in a given situation, and which should be declined.

In today's society corporations are linked economically and socially, voluntarily and involuntarily with numerous stakeholders. The stakeholders may contribute to, or be impacted by, the corporations' successes or failures. The stakeholder view of the corporation recognizes these reciprocal interdependencies. In the 21st century, all large corporations are networked into society. The creation and preservation of organizational wealth in the modern economy depends on the development and maintenance of favourable relationships within these networks. "The commitment to creating organizational wealth in a manner that is economically, technologically, and socially sustainable challenges conventional thinking about the nature and sources of corporate success" (Post *et al*., 2002, p. 241).

## 5. CORPORATE SOCIAL PERFORMANCE

CSP identifies management activities that are “over and above” the traditional role of managers in the Friedman sense – that of producing profit for the benefit of shareholders. (Carroll, 1979). Waddock and Graves (1997) undertook empirical research in the mid 1990’s to try and measure the effect of CSP activities such as philanthropy on the financial performance of companies. They tested the data for eight attributes, five of which emphasised key stakeholder relations (community relations; employee relations; performance with respect to the environment; product characteristics and treatment of women and minorities) (p. 307). They found that the definition of CSP needed to be widened to include stakeholder relations and that “meeting stakeholder expectations in advance of their becoming problematic” (p. 314) may have a part in improving financial performance. Extending the definition of CSP means that “stakeholder relations *are* corporate social performance in this new definition and expenditures in key stakeholder domains become an important element of improved corporate performance as well as improved CSP.” (pp. 314-315).

Under CSP stakeholder interests are not able to be dismissed by profit maximising managers. Taking those interests into account is a crucial part of improving the financial performance of the corporation, and fits with the new approach to business in the 21st century.

## 6. THE ROLE OF ACCOUNTANTS IN THE NEW SOCIAL ENVIRONMENT

Accountants are taught to report on companies as “going concerns” and auditors are charged with the responsibility of qualifying the accounts of any company that they are unable to believe is expected to continue as a going concern. Unfortunately, throughout the 20th century, directors, auditors and investors have generally judged the going concern ability of corporations on reported financial results alone. From that judgement base it is interesting to report that of the top 50 UK companies in the 1984 list, “around a fifth had passed on a decade later... Of the original 30 constituents of the *Financial Times* Ordinary Share Index, launched in 1935, just nine survive... Of the 12 companies making up the Dow Jones Industrial Index in 1900, GE was the only substantial survivor” (Elkington, p. 248). A major failings of the traditional system has been its inability to recognise the difference between immediate, but perhaps unsustainable, profits and sustainable profits supported by wise long-term investments.

The preparers of financial accounts have unavoidable links to the finance markets. These links have been known to persuade financial accountants to behave badly in providing advice to their clients and to society (a public trust responsibility is often linked with the role of financial accounting). The case of Enron/Arthur Andersen is perhaps currently the most topical example of this phenomenon. However, management accountants’ current and traditional responsibility is to provide mangers who exercise decision-making powers with the best of information for their decision-making purposes. In the emerging CSR environment, just what this responsibility involves is a difficult question.

In the approach to1987 many companies appeared to be performing exceptionally well on the basis of their published financial results. Many managers were consequently being well rewarded for their 'good' work. However, much of the appearance was an illusion and hundreds of companies collapsed around the world following the 1987 Stock Market crash. The 1987-88 edition of The New Zealand Company Register provides details of around 280 listed companies. Pratt (1993) states that: “Sixty seven [around a quarter of] companies listed on The New Zealand Stock Exchange failed in the four years following the 1987 Stock Exchange crash”. Reported short-term profitability is not a reasonable measure of a company’s underlying health. The Anglo-American focus on short-term profitability has been on the ascendancy throughout the 20th century in the Western world, but this may not be the best of developments as Carroll and Buchholtz (2000) explain:

> The traditional American and British view, wherein a public company has the overriding goal of maximizing shareholder returns [contrasts] with the view held by the Japanese and much of continental Europe, wherein firms accept broader obligations that seek to balance the interests of shareholders with those of other stakeholders, notably employees, suppliers, customers, and the wider “community (p. 64).

If Anglo-American type managers are to broaden their responsibilities in society to accept CSR, then they must start to consider more decision-making information than that required to maximise reported short-term profitability. However, most management accountants have been trained to produce decision-making information relating almost exclusively to reported short-term profitability. Management accountants need to re-examine what information is required by progressive 21st century managers.

The role of business in society needs to be revisited. What should be the driving force(s) that determine how businesses should be run? Which stakeholders should have a right to influence business decisions? What balance should be struck between economic, social and environmental concerns? What information is required to enable these, and resultant operational, questions to be answered?

The challenge of stakeholder management is to identify correctly and comprehensively the corporation's stakeholders and recognise those stakeholders who have the most power to influence the long-term viability of the corporation. These stakeholders can be recognised as primary stakeholders. Management should ensure that the concerns of the firm's primary stakeholders are addressed and resolved as completely as possible, while other stakeholders are dealt with ethically and are, whenever possible, also satisfied.

Without economic viability, all stakeholder interests other than those of shareholders that may have been recognised by alert managers must be denied any further support from the failed corporation. This axiom is sometimes used to illustrate the omnipotence of the economic model, but it does not. Managers must be aware that economically successful corporations, in the medium term, may create localised living conditions that are inhumane for both environmental and/or societal reasons. Then Western society, and even humankind, may be destroyed. Therefore it is important to recognise that SHV is not to be encouraged as an alternative approach to the economic view. Rather SHV is a balanced approach that requires the satisfaction of corporate economic, environmental and social responsibilities before, perhaps, philanthropic actions are contemplated. Any corporations that were exclusively to opt to pursue altruistic programmes in preference to economically sound programmes would probably not survive for long in the current business environment. However, the advocates of SHV believe that a balanced approach to corporate management should demand that managers accept environmental and societal responsibilities, and may engage in some philanthropic acts, in order better to merge the existence of powerful corporations in society with societal requirements. By doing this, managers can provide overall organisational outputs that are 'goal congruent' with the aspirations of the members of the host societies. This should allow such corporations to be valued in society and, become most likely to enjoy a sustained existence.

Waddock and Graves (2004) refer to such an outcome as a “virtuous circle” (p. 314). When studying the link between corporate social performance programmes and financial profitability, “good management theory” involves attention being paid to corporate social performance as well as interested stakeholder groups” (Dean, 1998, p. 100). Dean concludes “The underlying lesson from this study may be that we should redefine CSP to include proactive attention to a broad range of stakeholder concerns.” (p. 100).

Post *et al*., (2002) state that, "Recognition of the impact of humanistic values is not only critical for the long-term success of the individual firm; it is even more important for the survival of the corporate system as a whole" (p. 255). However, "Many experts still deny that the interests of other critical stakeholders, beyond those of the shareowners, contribute to corporate success over the long term [although] there is considerable evidence to the contrary" (p. 243).

Unfortunately, the evidence is not conclusive; perhaps partly because CSR and CSP are embryonic perspectives in corporate management and they have not had time to demonstrate their strengths. Nonetheless, Post *et al*. (2002) do provide some preliminary evidence that supports the proposition that corporations which choose to adopt CSR may outperform those that continue to embrace a more traditional management perspective:

> [A study] focusing on the 500 largest public corporations found that those that mentioned their commitment to stakeholder interests and codes of conduct in their annual reports

> (more than 100 firms) reported superior financial performance to those that did not (Verschoor, 1998). Another study… indicates that managerial attention to employee and customer stakeholders is associated with favourable financial performance (Berman, Wicks, Kotha, and Jones, 1999) (p. 28).

In recent years a number of organisations have evolved to provide information on socially responsible investing, to both private investors and fund managers. The influence of the suppliers of socially responsible investing information is therefore substantial in world markets, and growing. Some companies have made much progress in adapting themselves for the CSR environment. Anthony and Govindarajan (2001) cite the Acer Group, Lincoln Electric Company and Johnson and Johnson as three examples.

Carroll and Buchholtz (2000) suggest that:

> Criticisms of business and cries for corporate social responsibility have been the consequences of the changes in the business/society relationship. The stakeholder management approach… has become one needed response. To do less is to refuse to accept the realities of business's plight in the modern world and to fail to see the kinds of adaptations that are essential if businesses are to prosper (p. 86).

However, not all commentators agree. The little evidence that is available to support the statement does not provide convincing evidence of any cause/effect relationship. It might be that those corporations that are performing well financially become more willing to allocate more of their discretionary spending to social causes, than companies that are struggling financially. Thus financial performance may drive societal performance rather than vice-versa. Waddock and Groves (2004) considered this possibility when looking at extending the definition of CSP from a discretionary activity to a concept that is defined "in terms of stakeholder relations considered critical to firm performance" (p. 315). Their conclusion was that such an extended definition would result in good corporate performance and good management being "one and the same thing" (p. 315).

The degree to which CSR is accepted by companies that profess acceptance of it, is varied. In some companies CSR may become part of the Mission Statement, it then requires no further justification. Others may accept CSR as a Goal (ambition), and may refer to it often when considering their decision parameters. Yet others may take on CSR as a strategic manoeuvre because they believe it to be the best route to achieve their 'higher' (economic?) goals. Management teams that adopt CSR as a strategic approach, may view stakeholders as impediments to be taken into consideration and managed, while they attempt to maximise profits for their shareholders. The success of this ploy will then be judged in terms of profitability.

Adopting CSR involves deciding:

* Who the stakeholders are;
* What stakes each group should be recognised as possessing;
* What opportunities/challenges do the stakeholders present to the company;
* What responsibilities to the stakeholders should the company recognise;
* What actions are implied by the above; and should they be taken.

These questions cannot be satisfied with static answers in a fast changing world. They must be asked regularly and thought about carefully. In the authors' experiences it has been common to find that different senior managers and directors within any given company will rank the importance of various stakeholder groups differently, and will sometimes identify substantially different lists of stakeholders. The criteria which we recommend for ranking shareholders are their: interests in the corporation, their power to affect the future of the corporation and the urgency attaching to their professed stake(s).

Governments may be very powerful but have little interest in a particular corporation at a given time. NGO's may appear to have little power but may become very powerful if urgent prerogatives that they generate are not satisfactorily dealt with, and they mobilise public opinion against the corporation.

Under CSR and CSP considerable effort must be spent in managing the stakeholder relationships for the benefit of all concerned. The management accountants must continue to recognise their responsibility to provide relevant information for economic decision-making on timely bases, but they must also determine what additional data they must produce to enable managers to be proactive in the CSR environment. The space limitations of this paper prevent us from attempting to answer this last question here. However, we suggest that there is not one list of required information that will be optimal for every CSR company. Management accountants (and students) must realise that the business decision-making environment of each CSR corporation will be somewhat unique, and ever-changing. They must learn to be constantly alert to discover what new information becomes necessary to serve their managers.

**7. CONCLUSION**

Although the traditional corporate governance model is still adopted by many academics and business people today, it has been abandoned by many large companies in favour of CSR, which demands a different role for business in contemporary society. The CSR perspective incorporates economic considerations but additionally requires managers to consider their companies' social, environmental and other responsibilities. Under CSR, managers must recognise that stakeholders may sometimes value lack of environmental damage and/or highly ethical societal behaviour, ahead of short-term profitability.

The traditional corporate governance and financial reporting models may be neither ethically nor pragmatically suitable for maintaining the long-term health of companies. Managers adopting the CSR perspective must require additional information to enable them to consider additional issues. It follows that the role of the management accountant must change also, if the necessary additional information is to be provided by management accountants. Management accounting professionals must work hard to redefine their role in the emergent business environment, if the profession is to survive. There are many questions to be researched in order to allow tomorrow's managers to be provided with the 'right' information for their decision-making purposes. This paper attempts to make clear the need for such research; and the resultant need for revisions in management accounting curricula.

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# THE ROLE OF ETHICS IN BUSINESS & ACCOUNTING – A COMMENTARY

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## ABSTRACT

*This paper discusses the importance of ethical behavior for business in general and the accounting profession in particular. First, business ethics is defined and then various levels of business ethics are discussed. The importance of ethical reasoning in business is presented. Next, the paper examines whether ethics can be taught and the current research results on how best ethics should be taught. The role and standards of ethical conduct for public accountants as well as management accountants are discussed next. The paper concludes by stressing the need for ethics education for all business students, in general, and accounting students, in particular.*

***Keywords:*** *Ethics, Business, Accounting, Ethical Behavior, Ethics Education, CPA.*

## 1. INTRODUCTION

Broadly defined the term “ethics” represents the moral principles or rules of conduct recognized by an individual or group of individuals. Ethics apply when an individual has to make a decision from among various alternatives regarding moral principles. All societies and individuals possess a sense of ethics in that they can identify what is “good” or “bad.” (Weiss, 1994) (Bellamy, 1994)

Each individual determines ethical conduct. Each person uses moral reasoning to decide whether something is ethical or not. Ethics are a moral code of conduct that requires an obligation by us to consider not only ourselves but also others. There are various ways that individuals can receive ethical guidance in making moral decisions. Sources for ethical guidance include our family, friends, religion, and role models. Often such guidance is based on ethical theories such as:

- <u>The Golden Rule</u>: Act in the way you would expect others to act toward you.
- <u>The Unitarian Rule</u>: Act in a way that results in the greatest good for the greatest number.
- <u>Kant’s Categorical</u>: Act in such a way that the action taken under the circumstances could be a universal law or rule of behavior.

In making ethical decisions, individuals rely on such ethical theories. (Weiss, 1994)

## 2. BUSINESS ETHICS

Ethics exist for individuals and for groups such as organizations and professions. Business ethics differs from individual ethics in that the latter emphasize the selective viewpoints and acceptable practices of the members of a profession, such as law or accounting. Business ethics is the art and discipline of applying ethical principles to examine and solve complex moral dilemmas. Business ethics asks, "What is right and wrong, good and bad in business transactions?” Ethical "solutions" to business problems may have more than one right alternative and sometimes no "right" alternative may seem to be available. Therefore, logical and ethical reasoning is required to understand and think through complex moral problems in business situations. (Weiss, 1994; Bellamy, 1994)

### 2.1 Levels of Business Ethics

Business ethics is not simply a personal or an individual matter. Business ethics operates at multiple levels and perspectives. There are five levels of business ethics, individual, organizational, association, societal, and international. Ethical questions at the individual level deal with such issues as whether or not to cheat on an expense account, to call in sick when you are actually not, to accept a bribe, to follow one's conscience instead of an administrator's orders, to report a sexual harassment incident, or to sacrifice legal standing for individual wealth. If an ethical issue involves, or is limited to individual responsibilities, then a person must examine his or her own ethical motives and standards before making a decision. (Weiss, 1994)

At the organizational level, ethical issues arise when, for example, a person or group is pressured to overlook wrong doings of his/her peers in the interest of the company; or when an employee is asked to perform an unethical or illegal act to earn a division or work-unit profit. If an ethical issue arises at an organizational level, the organizational members should examine the firm's policies, procedures, and ethics code before making a decision. (Weiss, 1994)

At the association level, an accountant, lawyer, medical doctor, or management consultant may refer to his or her professional association's ethics code for guidelines on making decisions that could affect their ethical standing. (Weiss, 1994)

At the societal level, the laws, norms, customs, and traditions govern the legal and moral acceptability of behaviors. Business activities that are acceptable in Europe may be immoral or illegal in the United States. It is advisable to consult with knowledgeable, trustworthy contacts in foreign countries to understand the legal and moral codes of conduct before doing business there. (Weiss, 1994)

Finally, at the international level, an example of an ethical issue would be whether an employee should work for, or accept his/her company's policy of doing business with a government that supports apartheid, when American social values and laws oppose racial discrimination. Ethical issues at this level can be more difficult to resolve, since a mix of cultural, political, and religious values is often involved in a decision. Constitutions, laws, and customs should be consulted to understand what is and is not acceptable with regard to a particular decision. (Weiss, 1994)

These five levels of business ethics can and often do overlap. It is helpful to identify the ethical levels when confronting a moral issue and to ask whose values, beliefs, and economic interests are at stake in the decision-making process. (Weiss, 1994)

### 2.2 Importance of Ethical Reasoning in Business

Ethical reasoning is required in business for at least three major reasons: First, in many instances, laws are insufficient and may not cover all aspects of an issue. For example, should the Manville Corporation in the late 1970s have paid millions of dollars to asbestos claimants and thus avoided media-bashing or declared bankruptcy and not paid the claimants? Many legal actions may be unethical and cause physical or economic harm to others. Second, free market and regulated market mechanisms do not effectively inform managers about appropriate responses to complex crises with serious ethical consequences. For example, during the 1970s, American Cyanamid legally prohibited pregnant women from working in toxic areas to protect their unborn fetuses. Later in the 1980s the firm faced unanticipated discrimination charges and lawsuits from several interest groups. In 1991, the Supreme Court ruled that the "fetal protection" policies were a form of sex bias that is prohibited by the civil rights laws. Finally, a third argument is that ethical reasoning is necessary because complex moral problems require a learned understanding for fairness, justice, and due process. In most cases, company policies and procedures are limited in scope and detail in covering human, environmental, and social costs of doing business. (Bellamy, 1994)

### 2.3 Can Ethics Be Taught or Trained?

A good business ethics process is the first and most important line of defense against unethical or illegal activities. However, given the complexity and often-vague nature of ethical problems, there is an ongoing debate regarding whether or not business ethics can be taught or trained. For example, one study that surveyed 125 graduate and undergraduate students in a business ethics course showed that the students did not reorder their priorities, concerning ten social issues, at the end of the semester; they only changed the levels of importance. So, the question arises as to what is to be gained through the teaching and training of business ethics? (Helps, 1994)

An important component of an effective business ethics process is the sensitivity to its ethical role within the organization. Ethics courses should not advocate a single set of rules or one best solution to a set of problems. Decisions should depend on facts, inferences, and logical reasoning. However, ethics courses and training should achieve the following objectives: They should

- provide people with rationale, ideas, and vocabulary to help them participate effectively in the process of ethical decision-making,
- provide individuals with the intellectual capability to debate with those who violate ethical standards.
- enable employees to recognize and act as whistle-blowers for unethical company practices,
- enhance individuals' conscientiousness and sensitivity to moral issues and their commitment to finding moral solutions,
- enhance individuals' moral reflectiveness and strengthen their moral courage, and
- improve the moral climate of the firm by providing ethical concepts and tools to use for creating ethics codes and social audits. (Helps, 1994)

In order to achieve these objectives, common features of an effective ethics and awareness training program should include live instruction, small class-size, significant group interaction, adequate training, and separate courses for compliance areas. Teaching and/or training business ethics does not promise to provide answers to complex moral dilemmas. However, thoughtful and resourceful business ethics educators can facilitate the development of awareness of what is or is not ethical and help individuals and groups realize that their ethical awareness and decision-making styles decrease unethical blindspots. (Helps, 1994) Ironically, the now defunct firm Arthur Anderson had made significant contributions toward assisting and encouraging the coverage of business ethics at university level. They were using campus coordinators to distribute information and materials. Instructors could then use these materials that covered four academic areas, namely, accounting, finance, management, and marketing. The materials included business ethic videos, suggestions on presentation methods, possible discussion questions, etc.

Ethical education and training can be useful in developing a broader awareness of the consequences and motivations of our decisions. Yet, business ethics education does not provide universally correct solutions to moral issues. Business ethics education would only enhance insight and self-confidence in resolving moral issues for which there are often several solutions. (Helps, 1994)

Business ethics is a multidimensional field that evades a one-dimensional definition. It is a discipline that addresses numerous issues, problems, and dilemmas. In today's complex corporate society it has become increasingly important to have a good understanding of business ethics. Everyday managers and employees face numerous moral mazes and ethical dilemmas on the job that require hard choices. For those corporations with a questionable understanding of business ethics, a course or training session is to be recommended. This is because a corporation cannot have continued success without proper implementation of good business ethics. (Helps, 1994)

## 3. ETHICS IN ACCOUNTING

The accounting profession has regarded itself as ethical ever since the first modern professional accounting body was founded in the second half of the Nineteenth Century. Professional recognition comes from the public's reaction to what members of the profession do. To maintain and broaden confidence, accountants must act professionally and they must maintain a professional attitude. They can never afford to take their status for granted and become careless in their professional conduct. The Code of Professional Ethics of the American Institute of Certified Public Accountants (AICPA) provides guidance to public accountants on how to act in particular circumstances. Compliance with these rules of conduct stamps the certified public accountant (CPA) as a professional. (Loeb, 1975; Richardson, 1971)

### 3.1 Certified Public Accountants and Ethics

Every profession requires special knowledge skills, and each professional is expected to possess certain essential personal qualities. Certified Public Accountants are subject to a series of ethical codes. The American Institute of Certified Public Accountants, the national voluntary professional association of CPAs, has a code of ethics as do state or territory CPA societies, and the state or territory boards of accountancy. In some jurisdictions the societies and/or boards have adopted the AICPA code. The first ethical rules were adopted in 1905. Since then provisions have been added and modified. In the late 1960s, a committee was established by the AICPA to consider the need for revision. Since then the code of ethics has undergone several changes. (Carey and Doherty, 1994; Richardson, 1971)

In "Concepts of Professional Ethics" in the revised code it is stated:
“The Institute's Rules of Conduct set forth minimum levels of acceptable conduct and are mandatory and enforceable. However, it is in the best interests of the profession that CPA's strive for conduct beyond that indicated merely by prohibitions. Ethical conduct, in the true sense, is more than merely abiding by the letter of explicit prohibitions. Rather it requires unswerving commitment to honorable behavior, even at
the sacrifice of personal advantage.” (Richardson, 1971)

The conduct toward which CPA's should strive is clarified in five broad concepts stated as Affirmative Ethical Principles:

1. Independence, integrity, and objectivity - a certified public accountant should maintain his/her integrity and objectivity and, when engaged in the practice of public accounting, be independent of his/her client.
2. Competence and technical standards - a certified public accountant should observe the professions technical standards and continue to improve his/her competence and quality of service.
3. Responsibilities to clients - a certified public accountant should be fair to his/her clients and serve them to the best of his/her abilities, with professional concern with their best interests, consistent with his/her responsibilities to the public.
4. Responsibilities to colleagues - a certified public accountant should conduct him/herself in a manner that would encourage good relations with other members of the profession.
5. Other responsibilities and practices - a certified public account should conduct him/herself in a manner that will enhance the stature of the profession and its ability to serve the public. (Pearson, 1995; Snyder, 1996)

These Ethical Principles are intended as broad guidelines as stated by the Rules of Conduct. However, because of the increasingly complex and competitive nature of public practice, some CPAs may violate rules of the AICPA's code of Professional Conduct without realizing it. Although ethics violations are relatively infrequent, common problem areas that might be encountered include competence in a specific practice area, compliance with standards, and knowledge of accounting principles, record retention, errors, fee disputes, and client solicitation. Practitioners can save themselves aggravation and risk to their careers and professional reputations if they have adequate quality control systems that ensure the following qualities:

- Technical competence to complete engagements in new industries.
- Up-to-date technical accounting knowledge.
- Use of professional standards for all services.
- Professional behavior even when faced with unethical client behavior. Use of acceptable client solicitation methods. In some instances, companies have to revise their code of ethics in order to make it more effective. In the case of Northern Telecom, a corporation with over 60,000 employees globally, the decision to enhance the business ethics structure was driven by both internal and external forces. One of the first tasks was to determine how it should revise its Code of Business Conduct and make it a valuable resource tool. A comprehensive survey to determine what would be required to update the existing code was conducted. The revised code now provides more details on topics that employees identified as being important to them. These topics were avoiding conflict of interest situations, knowing what to do about gifts and entertainment bribes and kickbacks, and an acceptable means of gathering competitive intelligence. Employee interest has been high since the new ethics program was implemented. (Ayres and Ghosh, 1996)

### 3.2 The Ethics of Tax Practice

Areas of tax practice in which most CPAs frequently engage include assistance to tax payers in determination of tax liabilities and in planning business transactions with a view of tax ethics, preparation of tax returns, and refunds, etc. It has been estimated that at least one quarter of the fees of the accounting profession comes from tax practice. The CPA's work in taxes has been one of the reasons why the profession has grown rapidly. (Ayres and Ghosh, 1996)

In tax practice, as in other fields of practice, the CPA has a primary responsibility to the client. As the expert, the tax practitioner must indicate to the client the relevant alternative tax treatments and possible results. But the tax payee must be allowed to make the final decision. If the practitioner feels the client's decision is unsatisfactory he may cease representing the client. Not only is this the ethically proper course of action, but it should also improve the relationship between the client and the practitioner, since the client will not feel that assessment of a deficiency is the result of an error of judgment on the part of the practitioner. Ethics in tax practice can be very complex. Sometimes the CPA may be uncertain as to the best way to handle a tax situation, for at times it could be difficult to make an ethical decision in the best interest of the taxpayer. For example, a conservative CPA is faced with a tax return including a dubious deduction. There is a good chance that the tax return could be accepted. However, there is also a slight chance that it would not be accepted and that the client would be penalized. If the return is rejected, then even if no penalty were assessed, the client may be reluctant to pay the CPA (claiming negligence). The CPA would probably be better off going against his client's wishes and filing the return without a deduction. From this discussion it could be concluded that the CPA is violating a rule; that of letting the client make the final decision. He/she is generating more income for him/herself and more expense for the client, because of the possibility of the refund claim being audited. Yet, the CPA has violated no rule of tax practitioners who would say that his/her action was more in the public interest as opposed to his/her own. (Ayres and Ghosh, 1996)

### 3.3 Management Consulting Services

Management consulting services by independent accounting firms can be described as the function of providing professional advisory, or consulting, services with the primary purpose of improving the client's use of its capabilities and resources to achieve the objectives of the organization. Examples of such services are discussing depreciation procedures, considering inventory policies, establishing rules for the expensing of repairs and maintenance, advising on investment problems, credit policies, cash management, stockholder relations, development of cost systems, conversion and maintenance, advising on investment problems, credit policies, cash management, stockholder relations, development of cost systems, conversion of manual accounting procedures, design of internal financial statements, etc. (Stevens, 1991)

At the present time, management consulting services provided by the accounting profession are expanding rapidly, both in terms of revenue and the increasing variety of services. This expansion, along with the lack of any generally accepted activities, presents a challenge in defining accounting as a distinct and well-defined profession. (Stevens, 1991) Ethical problems in the field of management consulting services are complicated by this rapid diversification s evidenced by the Enron debacle.

### 3.4 Competence

The growing demand for management consulting services may lead many CPAs to assume that they are qualified to perform these services, which in reality could be beyond their realm of knowledge. Nothing would discredit the accounting profession more rapidly than the tendency of CPAs to perform services for which they are not qualified. Loss of client's confidence would have adverse effects on the more familiar areas of the accounting practice. (Ayres and Ghosh, 1996; Loeb, 1966)

In general, CPA's are qualified to perform management consulting services due to their extensive academic training and the examination requirement for a CPA Certificate. However, one cannot expect every CPA to be able to render all types of consulting services. This is why only an accounting firm should provide the full range of management consulting services. (Ayres and Ghosh, 1996; Loeb, 1966)

### 3.5 Independence

Independence is a most important trait for a CPA. However, it can be a potential stumbling block as far as management services are concerned. Some feel that providing management services undermines the CPA's audit independence. As long as the CPA confines his management services to advice, and does not participate in the final decision-making processes of the client, his independence is not jeopardized. However, this position has been challenged by people who feel that advising and decision-making cannot be separated and that the CPA who gives management services cannot avoid participating in the decision making process. (Carey and Doherty, 1966; Loeb, 1975) The recent Enron scandal proves this point beyond dispute.

Management decisions are rarely made by one person, but are worked out by several individuals within the company as well as an outside expert, the CPA. Therefore, the CPA must sit in on the discussion that leads to the final decision to be sure no changes have been made that would affect the advice he gives. This is said to be a situation in which the CPA's independence ceases to exist. (Carey and Doherty, 1966; Loeb, 1975)

Rule 1.01 of the Institute's Code of Professional Ethics provides a useful framework for the controversy of independence. A member or associate will be considered independent, for example, with respect to any enterprise, if he, or one of his partners, (a) during the period of his professional engagement or at the time of expressing his opinion, had, or was committed to acquire, any direct financial interest, or (b) during the period of his professional engagement, at the time of expressing his opinion or during the period covered by the financial statements, was connected with the enterprise as a promoter, underwriter, voting trustee, director, officer, or key employee. Since third party interest is not involved in the rendering of management consulting services, the standards of independence do not have to be applied when the CPA provides these to a non-audit client. Nevertheless, CPAs should maintain a general independence of attitude. They should be objective, unbiased, and forthright when dealing with the client's management. (Carey and Doherty, 1966; Loeb, 1975)

### 3.6 Advantage of Ethical Standards and Management Services

When a certified public accountant undertakes to render management services he makes them part of his public accounting practice, and in performing them he is subject to all the provisions of the Code of Professional Ethics, just as he is in other phases of his work. In fact, the committee on professional ethics has stated that all the provisions of the Code of Professional Ethics apply to management consulting services, except those rules solely applicable to the expression of an opinion on financial statements. In situations where ethical standards are questionable it is best to apply the pertinent rules to the facts just as it would be applied in any phase of professional accounting practice. (Carey and Doherty, 1966)

To undertake management services as a "business" while simultaneously carrying on an accounting practice as a "profession" would undoubtedly create confusion and would dilute the prestige of the certified public accountant in both fields. In the long run, it will undoubtedly be to the advantage of the accounting profession, if in the field of management services, as in all other fields of its activities, it exercises care to maintain all professional and ethical standards of competence, independence, and integrity, and the professional attitude. (Carey and Doherty, 1966)

In recognition of obligation of management accountants to maintain the highest standards of ethics, the Institute of Management Accountants (IMA) has composed a number of standards of ethical conduct for management accountants. Adherence to these standards is integral to achieving the objectives of management accounting. Areas covered in these standards include competence, confidentiality, integrity, and objectivity. When faced with significant ethical issues, management accountants should follow the established policies of the organization bearing on the resolution of the conflict. (Loeb, 1975)

### 3.7 Ethics Education for Accountants

The topic of ethics has recently received much attention by the accountancy profession. Discussions have taken place as to whether or not ethics can be taught to accountants on such courses as offered by the Chartered Institute of Management Accountants. Therefore, accounting educators are being called upon to provide a greater emphasis on ethics education. The three main concerns in ethics education of accounting are:

1. Whether or not ethics can be taught.
2. Innovative approaches that can be used to integrate ethics into the classroom.
3. Students' perspectives of ethical issues in accounting education, the accounting profession, and society at large.

A survey of students revealed that students consider a lack of ethics damaging to the accounting profession, as well as society. Results also showed that accounting students are seeking the ethical and moral direction that is usually not found in their regular course of studies. (Helps, 1994)

An ethics test was given to 372 accounting students and 53 accounting faculty from 10 schools. The test consisted of two (namely, insider-trader and CPA exam) ethical dilemma cases. Only 52% of the accounting students chose the only ethical response in the inside trader case; that is, to follow the letter of the law and not act on the inside information at all. Only 39% of the students chose the totally ethical response in the CPA exam case; that is not to look at an advance copy of the exam. Results like this emphasize the need to expose students to ethics before they enter the accounting profession. It is essential that the profession enhances moral development, encourage development of the skills to make reasoned decisions, and emphasize professional ethics.(Helps, 1994)

It has become imperative for accountants to receive proper ethical training through their college curriculum, as well as after college through continuing professional education (CPE) courses. Over 167 CPAs were surveyed to determine their viewpoints on the state of ethics in the accounting profession, the importance of ethical drawing to the profession and where that training should take place. Nearly 25% of the respondents to the survey had taken an ethics course in college and over a third of the sole practitioners viewed ethics as critical to decision-making in the profession. Some 96% of the CPAs considered themselves to be ethical decision-makers. However, only 62% of the CPAs viewed the profession as a whole as ethical. It is obvious that some critical changes need to be made. (Helps, 1994)

## 4. CONCLUSION

People generally are unethical, not because they fail to make the correct ethical calculation, but rather they do not even perceive that the situation confronting them even comes under the umbrella of ethics. (Pearson, 1995) For example, they may fully see the marketing dimensions of a situation, or the financial considerations or accounting ramifications, but they either fail to perceive sufficient ethical details of the problem before them, or even worse, fail to perceive that there are any ethical considerations at all.

While the accounting profession in the United States has claimed to be a moral or ethical body throughout the 20th Century, its moral persona and code of ethics have, in fact, undergone a number of changes. These code of ethics by which members have bound themselves have been professional ethics codes, which are more concerned with the relationship between two professionals or a professional and his/her client, than that of the society as a whole. Nonetheless, it is essential for practicing and future accountants, to receive the proper training in ethics. (Stevens, 1991) The ethical issue concerning social awareness must also be dealt with because an accountant's profession is to serve the public.

The Code of Ethics reveals what a profession thinks about itself and its place in society. It indicates the responsibilities that the profession voluntarily assumes and the importance which members attach to their own work, and the degree of public respect to which they think they are entitled. The rules themselves are a composite of idealism, morality, etiquette, and public relations. Their purposes are to attract confidence, discourage unprofessional behavior, and show the members how to get along with clients, with the community, and with each other. In short, "professional ethics" is concerned with human conduct and relations. As society becomes more complex, so does a profession's code of ethics. (Richardson, 1971) Accounting is a rewarding profession and will continue to be as long as good ethics are practiced. Professional ethics may well be the key to success in the profession of accounting.

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# IMPACT OF PERSONALITY, WORK DRIVE AND EMOTIONAL INTELLIGENCE ON ACADEMIC PERFORMANCE

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## ABSTRACT

*This study examined the impact of "Big 5" personality traits, emotional intelligence and work drive on collegiate academic performance. Academic performance was measured in terms of course grade and GPA. The results indicated that personality and performance are related, but that the form of this relationship depends to some extent on a person's personality traits. Conscientiousness was found to be positively related to GPA. Extraversion was not positively related to single course grade. Work drive was found to be positively related to GPA, but not to single course grade. Among the various work styles, the highest predictors of GPA were energy, innovation, stress tolerance and analytical thinking respectively. Finally, emotional intelligence did not appear to moderate the relationship between conscientiousness and GPA.*

***Keywords:*** *Personality; Big 5 Model; Work Drive; Emotional Intelligence; Work Behavior Inventory*

## 1. INTRODUCTION

Despite the recent increase in the number of studies examining empirical links between personality and intelligence (see Hofstee, 2001), a theoretical integration of ability and nonability traits remains largely unaddressed. According to Chamorro-Premuzic & Furnham.(2004): "There has been a renewed interest in the last 10 years in the relationship between personality and intelligence. This interest is reflected in several books and reviews (Barratt, 1995; Collis & Messick, 2001; Saklofske & Zeidner, 1995; Sternberg & Ruzgis, 1994; Zeidner & Matthews, 2000), as well as empirical studies examining ability and nonability individual differences in human performance, especially in academic settings (Busato, Prins, Elshout, & Hamaker, 2000; Chamorro-Premuzic & Furnham, 2002, 2003a, 2003b; De Fruyt & Mervielde, 1996; Goff & Ackerman, 1992; Rindermann & Neubauer, 2001; Siepp, 1991)." Furthermore, there are few models or theories that attempt to describe the processes or mechanisms by which personality traits may affect intelligence test performance/outcome (Zeidner, 1995, 1998).

This paper presents a conceptual model for the integration of personality traits and cognitive performance. Its main intent is to predict academic success by using personality factors (from the "Big 5" model) and emotional intelligence. Research has indicated that personality and performance are related, but that the form of this relationship depends to some extent on a person's personality traits (Ridgell & Lounsbury, 2004). The specific objectives of this study are:

(1) To determine the impact of Big Five personality traits on academic performance;
(2) To determine the impact of Work Drive on academic performance, both individually and in relation to Big Five personality traits;
(3) To determine whether emotional intelligence moderates the relationship between personality and performance; and
(4) To compare the results obtained above for each measure of academic performance to see if there are similar or different patterns.

This study was conducted on university students. The Entrance Examination Percentage was used as the learning ability measure, while Grade Point Average (GPA) and Single Course Grade were used as measures of academic performance. Among the Big 5 personality factors, this study focused only on 2 factors, namely, Conscientiousness and Extraversion.

## 2. LITERATURE REVIEW

Academic success predictors usually consist of cognitive measures, pertaining to mental ability or intelligence; and non-cognitive measures, especially personal traits. Results, while occasionally varied, have continued to support the conclusion that both cognitive ability factors and certain personality traits consistently predict academic performance (Dyer, 1987; Hoschl & Kozeny, 1997; Mount & Barrick, 1991; Mouw & Khanna, 1993; Paunonem, Rush, & King, 1994; Rau & Durand, 2000; Rothstein, Wolfe & Johnson, 1995).

### 2.1 Personality Traits: The Big 5 Model

Over the last 20 years, strong consensus of what personality traits are basic has emerged. Five superordinate factors have emerged and are referred to as the Big Five or the 5-factor model. These five factors are well supported by a wide variety of research, often concluding that the model is ubiquitous (Costa and McCrae, 1992; Costa, 1997; McCrae & Costa, 1997b). According to this model, there are five higher order personality traits (or factors), namely, Neuroticism, Extraversion, Openness to Experience, Agreeableness and Conscientiousness, on which people differ. These individual differences refer to stable patterns of behavior or tendencies, which are independent of each other.

“Neuroticism” can be described as the tendency to experience negative emotions, such as anxiety, depression and anger (see Busato et al., 2000; Costa & McCrae, 1992 for a fuller description). On the applied side, Entwistle and Cunningham (1968), for example, found Neuroticism linearly correlated with school attainment. Eyeseneck and Cookson’s (1969) study indicated that the relationship between Neuroticism and achievement become closer with increasing age, the age of 13 to 14 apparently forming a turning point (Eyeseneck, 1992b; Finlayson, 1970; Lynn, 1959; Lynn & Gordon, 1961; Savage, 1962). There are some counter findings as well. In Child (1964) and Grooms & Endler (1960), with respect to learning the message is that, particularly at a university level, high neurotic students are probably handicapped as compared to low neurotics.

“Extraversion” refers to high activity; assertiveness and a tendency toward social behavior (see Busato et al., 2000; Costa & McCrae, 1992, for a fuller description). Extraversion has been found relevant in contexts of learning (De Raad & Schouwenburg, 1996) and education (Eysenck, 1992b) and has been shown to be predictor of certain occupations (Barrick & Mount, 1991).

“Conscientiousness” is associated with efficiency, determination; responsibility and persistence (see Busato et al., 2000; Costa & McCrae, 1992 for a fuller description). Conscientiousness is the trait that has been drawn upon as a main psychological resource in situations where achievement is an important value; those situations are especially contexts of work, learning and education. The construct represents the drive to accomplish something, and it contains the characteristics necessary in such a pursuit: being organized, systematic, efficient, practical, and steady (cf. Goldberg, 1992). Smith (1967) found “strength of character” to be an important non-intellective correlate of academic success. Wiggin et al (1969) found need-achievement and conscientiousness among the best estimates of graduate success. Conscientiousness plays a prominent role in the HSPQ (Cattell et al, 1984) as predictor of school grades (e.g., Schuerger & Kuna, 1987). The use of the California Psychological Inventory (CPI) has demonstrated the importance of Responsibility and Achievement via Conformance to characterize high achievers (e.g., Gough, 1966; Holland, 1959). Recently, Wolfe and Johnson (1995) have supported the role of Big Five Conscientiousness in prediction of college performance. Of particular interest in Wolfe and Johnson (1995) is their use of different constructs, including conscientiousness, control and self-efficacy, apparently tapping from the same source. Tett et al (1991), Ones et al (1993), and Salgado (1997) have led to the conclusion that Conscientiousness is consistently related to job performance criteria.

“Openness to Experience” represents the tendency to get involved in intellectual activities, and a preference for novel ideas and experiences. (See Busato et al., 2000; Costa & McCrae, 1992 for a fuller description). Angleitner et al. (1990) used a separate category of “Abilities and Talents” to catch the relevant term, and grouped those terms together with “Temperament and Character traits” as

Dispositions. Openness to Experience is substantially related to Goldberg's "Intellect" and to Norman's " Culture" (McCrae & Costa, 1985). Learning strategies possibly mediate a relationship between Openness to Experience and grade point average (cf. Blickle, 1996). With respect to the educational relevance of this factor, Sternberg (1996) summarized some recent literature on the issue: "Intellectual engagement, openness to experience, need for cognition, and the desire to be thoughtful and reflective – all of which are closely related – generally predict educational success […] but many at times be associated with reduced outcomes […]" (p.449).

"Agreeableness" (also known as Sociability) refers to friendly, considerate and modest behavior (see Busato et al., 2000; Costa & McCrae, 1992 for a fuller description). Agreeableness, as the personality dimension, has the shortest history. This may come as surprise, since longtime constructs as Love and Hate, Solidarity, Conflict, Cooperation, Kindness are part and parcel of this dimension.

### 2.2 Personality Traits and Performance

In regard to academic performance, studies have found that personality traits were significant predictors of college academic achievement, in some cases accounting for almost 30% of the variance in final examination grades (Chamorro-Premuzic & Furnham, 2003a, 2003b). More specifically, it was found that Neuroticism and Extraversion are both negative predictors of success, whereas Conscientiousness is a positive (and probably the most important) predictor of academic achievement (Chamorro-Premuzic & Furnham, 2003a, 2003b). One of personality traits assessed by the study of Lowery, Beadles and Krilowicz. (2004) was achievement orientation. In Salgado (1998a), it was shown that conscientiousness increased the GMA variance by 12% and emotional stability by 7% in civil occupations. The findings from early meta-analyses of the Big Five personality dimensions (Barrick & Mount, 1991; Hough, 1992) have subsequently led to a renewed interest in personality measures in organizational settings, and the pessimism of past decades.

In Barrick (1991), the study investigated the relation of the "Big Five" personality dimensions (Extraversion, Emotional Stability, Agreeableness, Conscientiousness. and Openness to Experience) to three job performance criteria (job proficiency, training proficiency, and personnel data) for five occupational groups (professionals, police, managers, sales, and skill/semi-skilled). Results indicated that one dimension of personality, Conscientiousness, showed consistent relations with all job performance criteria for all occupational groups. Extraversion was a valid predictor for two occupations involving social interaction, managers and sales (across criterion types).

General intelligence, Big Five personality traits, and the construct Work Drive were studied by Ridgell and Lounsbury (2004) in relation to two measures of collegiate academic performance: a single course grade received by undergraduate students in an introductory psychology course, and self-reported GPA. General intelligence and Work Drive were found to be significantly positively related to both course grade and GPA, while one Big Five trait (Emotional Stability) was related to course grade only. Hierarchical multiple regression analysis revealed the incremental validity of Work Drive beyond Emotional Stability and over and above general intelligence: Work Drive accounted for 7% and 14% of unique course grade and GPA variance, respectively, when Emotional Stability was entered last; and Work Drive accounted for 6% and 13% of unique course grade and GPA variance, respectively, when Work Drive was entered last. In both cases, Emotional Stability did not provide significant unique variance.

### 2.3 Emotional Intelligence

The roots of emotional intelligence appear to lie in the apparent inability of traditional measures of "rational thinking" (e.g. IQ tests, SAT scores, grades, etc.) to predict who will succeed in life. According to Goleman (1996), research indicates that IQ at best contributes about 20 per cent of the factors that determine success in life. This view is in line with conclusions drawn by researchers who have a *prima facie* commitment to the primacy of IQ (e.g. Herrnstein and Murray, 1994). In an organizational setting, Bahn (1979) reported a study which was designed to assess the validity of IQ tests in predicting executive or management competency. He concluded that leaders tended to be more intelligent than the average group members, but not the most intelligent. His review of the studies in this field indicated a certain minimum base line IQ as being necessary for effective performance.

The search for characteristics other than IQ which adequately explain variations in success is by no means new. Thorndike (1920), in reviewing the predictive power of IQ, developed the concept of social intelligence as a means of explaining variations in outcome measures not accounted for by IQ. The interest in a broader view of the totality of intelligence was resurrected by researchers such as Gardner and Hatch (1989) who developed and explored the concept of multiple intelligences and found no significant relationships with IQ measures. This led to a conclusion that the "other" intelligences proposed by Gardner were a distinctly different construct from IQ.

In developing potential explanations of the "interpersonal intelligences", the major paradigm has been that of meta-cognition (i.e. awareness of one's mental processes) rather than exploration of the full range of emotional abilities (Goleman, 1996). In identifying a range of emotional abilities, Goleman highlights a need to go beyond meta-cognition and explore the concept of "metamood" (which he defines as awareness of one's own emotions). He further expands on this to highlight the importance of self-awareness which he describes as being:"... aware of both our mood and our thoughts about that mood ... non-reactive, non-judgmental attention to inner states (Goleman, 1996, p. 43)."

### 2.4 Performance and Emotional Intelligence

Emotional intelligence (EI) is an increasingly popular consulting tool. The authors measured emotional intelligence with the Multifactor Emotional Intelligence Scale (MEIS; J. D. Mayer, P. Salovey, & D. R. Caruso, 1997). As measured by the MEIS, overall emotional intelligence is a composite of the 3 distinct emotional reasoning abilities: perceiving, understanding, and regulating emotions (J. D. Mayer & P. Salovey, 1997). Although further psychometric analysis of the MEIS is warranted, the authors found that overall emotional intelligence, emotional perception, and emotional regulation uniquely explained individual cognitive-based performance over and beyond the level attributable to general intelligence.

The study by Douglas, D Frink and Ferris (2004) investigates whether the relationship between conscientiousness and performance is stronger for individuals who are high on emotional intelligence. The results of hierarchical moderated regression analyses supported the hypothesis by demonstrating that the relationship between conscientiousness and work performance is positive for individuals high (versus low) in emotional intelligence. However, the opposite pattern was found for those low in emotional intelligence; that is, increases in conscientiousness were associated with decreases in performance. Implications of these results are discussed, as are directions for future research.

### 2.5 Work Drive and Personality Traits

Ridgell & Lounsbury (2004) recognized several key issues in recent research, such as the difficulty in identifying variance in academic performance when using cumulative GPA as criterion. In addition, they noted that previously-used ACT scores, SAT scores, or high school grades as predictors might not lend to drawing valid conclusions regarding intelligence. Therefore, they decided to use a measure of general intelligence as a predictor of academic performance, and to use both GPA and the grade received in a single college course as measures of academic success. They also studied the relationship between Big Five personality traits and GPA and the single college course grade. In particular, this study's examination of the relationship between Work Drive and academic success responds to calls for more specific or narrow-band personality constructs than the Big Five in predicting college grades (McIntire & Levine, 1984; Paunonen & Ashton, 2001).

### 2.6 Work Drive and Performance

Work Drive has been found to predict academic performance as represented by course grade and GPA, both individually and uniquely in relation to Big Five personality traits. Thus, Work Drive appears to be a good general predictor of performance that could be used in addition to intelligence and Big Five personality traits to predict academic success. The study by Lounsbury (2003) has answered recent calls for more specific personality constructs (such as Work Drive) than the Big Five in predicting college academic success (Lounsbury, et al., 2003; Paunonen & Ashton, 2001; Paunonen & Nicol, 2001). It also adds to a growing body of knowledge regarding the influence of personality traits on academic performance. Future research should continue to study the impact of Work Drive and other more narrow constructs and their roles in adding incremental unique variance in academic success in relation to Big Five traits.

### *3.* MODEL & HYPOTHESES

In this study, the following hypotheses are generated:

H1: Work Drive is positively related to single course grade
H2: Work Drive is positively related to GPA
H3: Conscientiousness is positively related to performance (GPA)
H4: Emotional Intelligence moderates the relationship between conscientiousness and performance
H5: Extraversion is positively related to a single course grade (i.e. Communication Art, English, Management and Accounting)
H6: Various Work Styles, as measured by the Expert Software (WBI), correlate with College GPA.

“Work Drive” in this study has been constructed from the following variables: achievement orientation, initiative, persistence and energy (with or without Accurate Self Presentation). “Conscientiousness” has been defined as: Initiative, Persistence, Attention to Detail, Dependability, (with or without Accurate Self Presentation).

In Hypotheses I and 2, we test the assumption that various personalities motivate students to do well in their studies, which may be demonstrated in the core course of their major (single course grade) and the total grade average up to the day they completed the personality questionnaire. Those traits or motivation could be Achievement Orientation (Lowery et al, (2004), Initiative, Persistence, Energy and Conscientiousness (Barrick & Mount, 1991; Salgado, 1997).

Earlier, it has been noted that conscientiousness is a positive and one of the most important predictors of academic achievement (Chamorro-Premuzic & Furnham, 2003a, 2003b). This provides the rationale for Hypothesis 3.

Based on the notion advanced by Goleman (1998), highly conscientious workers without emotional intelligence may demonstrate ineffective work performance. Hence, in Hypothesis 4, it is postulated that emotional Intelligence may moderate the relationship between conscientiousness and performance.

Extraversion and academic achievement change from positive (i.e. children tend to perform better in elementary school when they are extraverted) to negative (i.e. secondary school and university students tend to obtain higher grades if they are introverted) as individuals progress through the formal educational system (Chamorro-Premuzic & Furnham, 2003a, 2003b). As for Extraversion, we hypothesized a positive relationship with performance (Hypothesis 4).

In Hypothesis VI, from other studies with regard to other traits such as Neuroticism, Extraversion and Openness to Experience (Ackerman and Heggestad (1997)) and two to five different traits from five factors (Barrick and Mount (1991), Salgado (1994)), we have tried out every personality factor to see those very high up in correlation with performance referring to as Various Work Style.

## 4. METHODOLOGY

In this study, the Work Behavior Inventory (WBI) developed by Ronald Page (2002) was used. WBI was developed over a period of years to incorporate leading-edge approaches to personality and competency assessment. The WBI Personality Questionnaire has recently been translated and validated in 2005. The Thai language version has a Cronbach coefficient alpha of over .80. The participants were 200 college undergraduate students, mostly juniors and seniors, from a large private university in Thailand. Students spent about 30-40 minutes responding to the WBI survey. We came down with 117 usable data from 4 different areas/departments, namely, Communication Arts, Humanities, Accounting and Business Administration. Students who have completed the survey were attached to some variable codes in order for analysis to be done. The analysis identified inter-group differences to see if there were any predictive links between WBI scores and department, GPA, Single score and Entrance examination percentage groups.

## 5. RESULTS

The results showed that there was no significant correlation between Work Drive and Single Course Grade. Hence, Hypothesis 1 was not supported. One explanation for the result may be that we were comparing students from four different departments taking different single courses, as opposed to the situation where all students attended the same course.

On the other hand, the results showed that Work Drive had a positive relationship with GPA, thus supporting Hypothesis 2. Similarly, it was found that Conscientiousness was positively related to GPA. Hence, Hypothesis 3 was supported.

The correlations between the combination of Conscientiousness and Emotional Intelligence with GPA are substantially the same as the correlations in Hypothesis 3. Therefore, Hypothesis 4 was not supported and Emotional Intelligence did not appear to moderate the relationship between Conscientiousness and GPA. Emotional Intelligence seems to have no impact on the exam result. This could be that the student environment in this study is totally different from a 'work environment' where there is more pressure from bosses, peers, time frame, uncertainties and so on.

The findings further indicate that Extraversion was not related to Course Grade. Hence, Hypothesis 5 was not supported.

Finally, there was support for Hypothesis 6 because the results showed that a number of WBI scales have significant correlations with College GPA. The magnitude of these correlations is greater when Humanities students are excluded from the sample. The findings indicate that the highest predictors of GPA are Energy, Innovation, Stress Tolerance and Analytical Thinking.

## 6. CONCLUSION

The results of the study confirm previous findings regarding the validity of both cognitive and personality variables in relation to collegiate academic performance (Paunonen & Ashton, 2001; Wolfe & Johnson, 1995). However, even though the Big Five personality traits appear to be related to academic performance, the pattern of significant relationships is inconsistent and may depend, in part, on such factors as year in school, and the type of criterion used to represent performance. This study also found that Work Drive appears to be a good general predictor of performance that could be used in addition to intelligence and Big Five personality traits to predict academic success.

This study answered recent calls for more specific personality constructs (such as Work Drive) than the Big Five in predicting college academic success (Lounsbury, et al., 2003; Paunonen & Ashton, 2001; Paunonen & Nicol, 2001). It also adds to a growing body of knowledge regarding the influence of personality traits on academic performance. Future research should continue to study the impact of Work

Drive and other more narrow constructs and their roles in adding incremental unique variance in academic success in relation to Big Five traits.

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## XML-BASED SOLUTIONS' ROLE IN THE FUTURE OF SUPPLY CHAIN MANAGEMENT

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### ABSTRACT

*Supply Chain Management Systems (SCMS) in today's global environment have the potential of creating significant benefits to organizations and business partners worldwide. While eXtensible Markup Language (XML) defines data elements in business documents and is an open standard and a trademark of the World Wide Web Consortium. The purpose of this research paper is to present the research question, review the conceptual framework and environment for both SCMS and XML, study their objectives, and utilize any useful theories that may aid in identifying the key factors.*

**Keywords:** Supply Chain Management, eXtensible Markup Language, Electronic Data Interchange, e-commerce, internet commerce, industry standard, RosettaNet, e-business XML, STEPml.

### 1. INTRODUCTION

Supply Chain Management (SCM) is the systematic effort to provide integrated Supply Chain Management to the Supply Value Chain in order to meet customer needs and expectations, from suppliers of raw materials through manufacturing and on to end-customers (Stein and Voehl, 1998). E-commerce is not simply about business transactions that run over the internet, but is fundamentally about the flow of information. The boundaries of organizations are more fluid than they used to be. Supply chain management forces companies to streamline the ways they manufacture, distribute, and sell products and ultimately will improve the way organizations conduct business. The supply chain cycle begins with a customer's order. The manufacturer passes the order through the usual intra-enterprise activities, for example, sales, marketing, manufacturing, distribution, purchasing, and fiscal accounting. Usually the manufacturer turns to outside support from suppliers, utilities, transportation, and other providers of goods and services that are needed to make the product. The information exchange pertains to such matters as requests for quote, bids, purchase orders, order confirmations, shipping documents, invoices and payment information. In this way multiple enterprises within a shared market segment collaboratively plan, implement, and manage the flow of goods, services, and information along the value system in a way that increases customer-perceived value and optimizes the efficiency of the chain (Dobbs, 1998).

In today's global environment, businesses are increasingly striving to find ways to cut costs and increase profits. Globalization has brought intense competition and pressures, which has forced businesses to look for and consider any transformation that hold the promise of creating efficiencies and reducing costs. Among the culprits, bloated inventories stand out as the most critical that have a huge impact on the company's bottom line. Inventories include raw materials, work in progress, and finished products. Businesses incur costs associated with storing, distributing, warehousing and transporting these products. The flow of products usually occurs between the many business entities that include the manufacturer, the distributor, and the retailer, thus forming a chain. This chain is referred to as the supply chain. According to Mentzer, the supply chain is a set of three or more companies directly linked by one or more of the upstream and downstream flows of products, services, finances, and information from a source to a customer (Mentzor, 2001).

The question facing companies that are trying to thrive in a difficult business environment is: How can businesses lower operational costs, boost performance, and enhance upstream and downstream collaboration in order to survive and grow in today's competitive global environment? While recognizing the importance of the answer, it is as important to understand what lies ahead for Supply Chain Management (SCM). The paper will use SCM and Supply Chain Management Systems (SCMS) interchangeably.

## 2. RESEARCH QUESTION

The aim of this research paper is to study the prospects of the research question: Will XML-based solutions become the defacto standard for SCMS? The justification for the research question is that it provides a direction for organizations on technologies that can prove useful and would lead to building a successful SCMS. Factors that have an influence on organization's decision to use a certain technology have come under much study as in the diffusion models, where managers gain insight on to the reason behind why technologies may diffuse quickly, and for researchers to gain more insights about factors causing greater assimilation depths or wider adoption breadths (Nelson, Shoonmaker, Shaw, Shen, Qualls and Wang, 2002). Managers may find opportunities to influence the key factors (Lucas and Spitler, 1999), while researchers may detect common factors across various technologies and may generalize to a wider scope (Fichman, 1992).

The first known study to model XML-based interorganization systems was done by (Nelson et al, 2002), which concluded that lack of compatibility with old processes and environmental factors lead to the adoption of RosettaNet based solutions. The adoption of this technology also leads to substantial financial gains and operational improvements (Nelson et al, 2002).

### 2.1 Research Review

In searching for the key factors, it is important to have an extensive review of various aspects and interactions of both SCM and XML-based solution. Also, an essential part of the understanding is to view the competing technologies for SCM. Categories of I/S success consist of system quality, information quality, use, user satisfaction, individual impact, and organizational impact (Delone and McLean, 1992). DeLone and McLean (1992) suggest that senior executives are capable of determining the impact of information technologies on their firms because their key positions within the firms provide the knowledge of technology's impact on their organizations.

The most recent related research conducted was an exploratory study investigating many of recently developed supply chain technologies and their diffusion issues. The study was based on more than 100 pilot interviews, considered the extent to which U.S.-based firms have adopted a wide range of supply chain technologies, including the latest applications and software tools, and integrated them into the major functional areas of the supply chain (Patterson, Grimm, and Corsi, 2004). While this study of SCM technologies was very broad and addressed the several technologies that can be integrated with SCM, such as Computer Aided Design (CAD), Electronic Commerce Technology (ECT), Enterprise Resource Planning (ERP), Supply chain event management systems (SCEM), and Electronic Data Interchange (EDI). The study provided an important insight into the current state of supply chain technology adoption and utilization. One of the key advantages of electronic integration is the speed and proficiency of exchanging information with partners in order to better control inventory throughout the supply chain (Levary, 2000).

### 2.2 Research proposal

The research will study companies that invested in costly EDI technologies and eventually abandoned EDI and have moved their data sharing to XML-based solutions; one of those companies is JB Hunt Transport. The general framework of the research will follow the Miles and Huberman approach, where they provide an invaluable general framework for conceptualizing qualitative data analysis (Robson, 2002). Their account of how structures produce the observed effects "aims to account for events, rather than simply to document their sequence. We look for an individual or a social process, a mechanism, a structure at the core of events that can be captured to provide a causal description of the forces at work." The factors perceived as relevant to study are compatibility, relative advantage, environment (Nelson et al, 2002), costs, flexibility, integration time (Tompkins, 2002), and performance.

As advocated by Miles and Huberman (Robson, 2002) for case studies, the NUD*IST model can be represented in its graphical form when it applies to each of the factors. While the figure itself was not designed for the purpose of this research, it is a way to view how the representations of various factors of our research can be modified as the observed events across various time frames. The plot enables the entire process of data collection that is gathered in a textual format from observations, emails, and recordings.

## 3. SUPPLY CHAIN MANAGEMENT

Supply Chain Management (SCM) is defined as a set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses, and stores; so that merchandise is produced and distributed at the right quantities, to the right locations, and at the right time, in order to minimize system wide costs while satisfying service level requirements (Simchi-Levi and Kaminsky, 2000). SCM functionality for manufacturers involves full management of the scheduling and acquisitions of the materials needed for production.

SCM is usually integrated with internal functions of the business that may include human resources, sales and marketing, manufacturing, and finance through Enterprise Resource Planning Systems (ERP). Businesses are leaning more towards improving their supply chains due to the growth in the number of suppliers that require them to have more efficient and effective SCM systems. In addition, their dependence on outsourcing logistics of the supply chain is also affecting their ability to meet customers' needs. Businesses are aiming to create transparency and visibility into the supply chain in order to fulfill their business objectives. Supply chain partners are able to collaborate and work together better when there is transparency in the supply chain. Vendors and suppliers can support the chain more efficiently and effectively when information moves across the chain in a timely manner.

### 3.1 SCM View and Objectives

The conventional way of doing business among the companies in the supply chain was for each firm to try to get a bigger share of the pie. The lack of collaboration between supply chain partners was due to the individual firms focus on improving their own financial gains without regard to others in the supply chain. It can be described as a "cutthroat" way of doing business. The benefits in this case are only short term and that demonstrates the lack of strategic vision for those firms. The purpose of SCM is to create mutual long lasting benefits to all of the business partners in the chain. Collaboration and transparency in the supply chain can lead to success for the whole chain creating a benefit for each business entity.

A simple supply chain would consist of a vendor, a manufacturer, a distributor, and a retailer where the whole supply chain caters to the customer. Information should flow with transparency from Vendor to Retailer and Vice Versa. Successful management of the supply chain will increase the share of each firm by increasing the size of the pie by attracting and generating more business for the firms. SCMS aim is to benefit the supply chain as a whole.

While there are many objectives of SCM, the most salient are:

- To achieve a differential advantage for the firms in the supply chain
- To improve the profitability for the firms
- To create value for the customer

Supply Chains are perceived as trading networks and managing them successfully can ensure prosperity for the whole chain. There are many Supply Chain Management solutions that address various issues of the business. One of the vendors that offer SCM solutions is Manugistics. According to Manugistics (2003), these solutions help companies collaborate in real time with their trading network partners, optimize the supply, and gain complete visibility into the entire global supply chain.
It is crucial for businesses to view SCM as a single value system that focuses on three disciplines:

1. Operation excellence, by providing reliable products at competitive prices and minimal inconveniences.
2. Customer intimacy, by tailoring products to fit the needs of customers.
3. Product leadership, by striving to produce "a continuous stream of state of the art products and services" (Treacy and Wiersema, 1993).

For example, Dell Computers created the value model of mass customization that allowed it to build-to-order, reduce inventory costs, and gain competitive advantages. Dell's successful SCM Information Systems helped it achieve the best quarter ever for product shipments, revenue and profits during 2003.

One of Dell's suppliers, Kingston Technology the world's largest independent manufacturer of memory products, received the Supplier Diversity award given to top ranking suppliers for exceeding expectation for on-time delivery (Dell, 2003).

Achieving the goals of SCM is no trivial task. It requires an integration of business processes supported by robust information systems. A critical question then is: What type of information systems is required to have a successful SCM system?

### 3.2 SCM Systems

The main aim is to ensure information flow upstream as well as downstream across the information systems of the firms in the supply chain. The flow of information must provide transparency and must occur in real time. SCM information systems can be represented by two approaches to interfirm information systems (Zacharia, 2001):

1. Electronic Data Interchange (EDI).
2. The Internet.

The foundation of interfirm applications is the intrafirm information system of an organization, such as Decision Support systems; Expert systems; Warehouse Management systems; Enterprise Resource Planning (ERP) systems; Intranets; and Transportation Management systems (Zacharia, 2001).

## 4. TRADITIONAL (Pre-Internet) APPROACH—ELECTRONIC DATA INTERCHANGE

Until recent times, EDI has been the silver bullet for SCM. It has been considered as the glue that binds the long-term relationship between firms in the supply chain. EDI was adopted in the early 1990s as the tool that allowed the transmission of standard business documents between the partners by using a standard format. EDI also allowed for the exchange of business documents within the organization. EDI was able to provide both operational efficiencies and customer satisfaction.

Users of EDI were able to reap such benefits (Mentzor, 2001), such as, fast access to information, better customer service, reduction in paperwork, improved communication, increased productivity, cost efficiencies, competitive advantage, and Improved billing and accuracy. However despite the success story of EDI, there were several drawbacks, summed up as, very expensive for small firms, rigid format and lower flexibility, needs special communication channels, batch oriented, and requires proprietary hardware and software.

A new alternative that presented itself as a result of the rise of a new communication medium is the Internet. The Internet's low cost, ease of use and ready access resulted in its becoming the firm's communication system of choice. A slow shift from EDI towards Internet based solutions has begun and been gaining momentum despite some large firms' commitment to EDI. The overall trend has shifted towards developing more effective SCM information systems by using the capabilities of the Internet that employs XML and away from EDI.

## 5. INTERNET-BASED SCM INFORMATION SYSTEMS

Owing mainly to its ubiquitous nature and low cost, the Internet has become a major player in the success of SCM. The low cost to access the World Wide Web has made it an attractive tool for communicating information. Utilizing the Internet as the main enabling technology has helped to overcome SCM systems obstacles that have been around since the early 1990s. These obstacles were due to the reluctance of the supply chain partners to commit to a common system infrastructure, because of the issues associated with legacy systems as well as increased upgrading costs.
One industry that benefited from the web is the automotive industry. The focus of the "supply-Webs," is on planning and controlling inventories (Kehoe and Boughton, 2001). The web-based Automotive Network Exchange established through collaboration between General Motors, Ford, and Chrysler brings together complex supply networks to facilitate the management of parts inventories.

### 5.1 Use of XML in SCM Solutions

The single most important piece of the puzzle in Internet based SCM solutions is the use of XML. This invaluable format has proved to be the "data carrier" that can go across disparate platforms. The value of XML based solution can best be described in this case study. Compugen and Ingram Micro are two companies in the IT industry that needed a better way to improve cost efficiencies in their supply chain. They needed to streamline their overall supply chain processes.

In March 2000, the companies decided that their existing EDI system was not a long-term solution (Microsoft, 2003). The companies decided to use an XML based solution that offers real time capabilities using Microsoft's BizTalk and SQL Server. The XML solution was based on Ingram Micro's own solution Mustang. Mustang utilized XML providing a simple, extensible standard platform that was powerful, flexible, and at a lower cost.

The focus on XML is so strong because of its publishing capabilities over the Internet. Organizations are moving to XML-based applications from the conventional EDI, because XML is providing tighter integration for partners in the supply chain, even though they might be at different levels of technology or on entirely different platforms. XML's specification is the main reason that makes it is so powerful. The Internet needed a simple markup language that is simple, flexible and extensible, can accept any Unicode character, and doesn't require any special tools. In July 1996 a team of IT, Web markup language experts, along with representatives from Sun, HP, Netscape, Microsoft, Adobe, Fuji-Xerox, and academics met to draft the specifications for XML. The draft was released in November 1996, and XML began to appear in the spring of 1997. The XML 1.0 specification became a "recommendation" by the WWW Consortium on Feb 10, 1999 (McClure, 2000).

XML's ability to create an unlimited number of markup languages for different applications and industries made it the basis for many efforts and standards. Information exchange inside and outside the boundaries of the organizational proprietary applications and solutions are very complex and costly. XML took on this task, and XML based solutions are more emerging as replacements, or occasionally enhancers for EDI based solutions.

An example where XML based solutions beat out EDI is when Hughes Supply a Fortune 500 company selected Documentum 5. Hughes Supply has more than 7,200 employees and more than 450 wholesale outlet locations. Hughes was looking for a unified infrastructure to automate its internal processes, ensuring its employees, customers, partners and suppliers to always have accurate, up-to-date information across a variety of delivery channels, including portals (Documentum, 2004). Documentum 5 is an XML-based solution that allowed Hughes Supply easy-to-use web-based interfaces for the users to streamline critical business processes internally and in partnership with customers and vendors (Documentum, 2004).

Organizations using EDI had to establish the interfaces and formats for information transfer, which put smaller partners at a disadvantage in terms of costs and integration with the supply chain. XML leveled this disadvantage, which has lead to better relationships and ultimately better financial returns. XML may also provide an additional avenue for companies using EDI, where both incoming and outgoing data can be translated into XML.

The use of XML with existing EDI systems can enhance the functionality for these systems in order to have a real time link between partners in the supply chain and have an interactive line of communication. Some companies, during the transition from EDI to XML, used the ANSI X12 EDI standards as the basis for XML development so they wouldn't encounter painful transitions and limited capabilities during evolving standards (McClure, 2000).

### 5.2 How is XML used in Internet based SCM solutions?

Although XML was "recommended" by the WWW Consortium, it has emerged as the standard for exchanging data between applications and organizations. XML is considered a second-generation programming language for the Web. XML has established common vocabularies and grammars (Tibco, 2004). Most importantly, XML's syntax provided standards to describe information. XML has separate facilities for the management of content-description, presentation, and access. XML also enables users to create their own vocabularies, to describe the intellectual assets of their organizations, industry and applications (Tibco, 2004).

For example, XML uses tags like HTML, but the nature of the tags allows for very high level of flexibility. The tags are so flexible that they can describe a whole book, each paragraph and each letter in the book. XML's descriptive scalability makes attractive in areas as disparate as document publishing and data interchange applications. As mentioned earlier, the most effective SCM software applications must be able to satisfy the requirements of Planning, Scheduling and Fulfilling, interacting and transacting, and responding, Figure 3 below offers a view of areas in the SCM process where XML is able to play a role.

Vendors of SCM software create intermediate documents in their solutions that are used to communicate with systems both internally and externally. To communicate with an external system, mapping tools are used to convert the intermediate documents into XML documents. These XML documents are then transferred onto the Internet and over the web. Suppliers who have XML capability will then receive these documents. There are many vendors that use XML-based solutions in their applications.

For example, SAP's Advanced Planner and Optimizer (APO) is one software solution that uses XML (Sleeper, 2000). As XML has started to chip away at EDI, companies such as Dell computers have begun using XML based applications for interfaces between customers' ERP and Procurement systems and its own online order management system. These applications formed a wrapper around EDI to allow the companies retain their investments even as XML becomes the new standard for SCM systems (Booker, 1999).

AS expected, the next evolutionary step is to use XML to develop standards specific to SCM processes found in specific industries. Though many such XML based standards have started to emerge, a few deserve special attention. The next section examines these in great detail.

## 6. XML BASED STANDARDS

There have been a large number of different groups creating standards based on XML. The many variations could be seen as unnecessary and could tend to create confusion and additional expenses. The Organization for the Advancement of Structured Information Standards (OASIS) is leading the way to reduce these variations (Herman, 2001). Some of the standards are being developed even as this paper is being written. One of those standards being developed is by Standard for Technology in Automotive Retail (STAR). STAR is developing an industry specific XML based standard for communication specifically among dealers and manufacturers. Up to now, STAR has decided on 22 XML standards components that cover various aspects of the business such as parts orders and credit applications. The strongest proponents for XML have been Dell, Cisco, Intel, Sun Microsystems, and Selectron. It has been noted, "the organizations that are heavily committed to the Internet for intercompany communications are interested in XML" (Patrizio, 2001).

The next section discusses three standards that are based on XML and have been developed for specific partners or industries.

### 6.1 EbXML, RosettaNet, and STEPml Standards

EbXML (e-business XML) seems to provide the best framework or e-business' interfaces for the exchange of data encoded with XML. EbXML can be defined as a standard or a protocol that is being driven by both OASIS and the United Nations Center for Trade Facilitation and Electronic Business (UN/CEFACT). SCM is one aspect of e-business that covers interaction between business partners in a chain. EbXML's goals are consistent with XML open standards that allow widely available interfaces, which can be used by any company anywhere (Herman, 2001). EbXML's dynamic nature allows companies to interact without humans. The interaction between companies is done through EbXML's established procedures and registries, which ensure a global and open process infrastructure.
EbXML was ratified in May of 2001 and received important endorsements from Herman (2001):

- The Global Commerce Initiative (GCI), which is a standards consortium for supply chain

- Improvement in the consumer goods industries.
- COVISINT, the supplier exchange for the auto industry.
- Open Application Group (OAGI), a non-profit consortium that focuses on best practices and process based XML content for e-business and application integration.

XML's flexibility in allowing users to define their own vocabulary, promoted the creation of various standards, including EbXML. XML based messages support message exchanges among the different types of collaborating applications. These messages hold valuable data that play a key role in supporting the supply chain. The process flow of the application is designed based on the EbXML standard.

RosettaNet is a non-profit organization that is a consortium of more than 500 global partners. It's a subsidiary of the Uniform Code Council, Inc. (UCC). It incorporates the top Information Technology, Semiconductor, Electronic Components, and Solution Provider companies collaborating together to create, implement, and promote e-business process standards. Companies that implement RosettaNet standards are engaging in dynamic and flexible trading partnerships, benefiting greatly from reduced costs and increased productivity (Oasis, 2003). RosettaNet envisages several Partner Interface Processes (PIPs), which are specialized system-to-system dialogs that define business processes between trading partners. PIPs apply to core business processes, such as Inventory Management, Manufacturing, Order Management, and Marketing Information Management. Areas of impact for RosettaNet PIPs include (Oasis, 2003):

- Inventory Management: through collaboration, replenishment, allocation and reporting of products, and price protection.
- Manufacturing: allows configuration and design exchanges, process, quality, and information support.
- Order Management: by providing support to the entire order management business area consisting of price and delivery quotes, purchase orders, status reports, invoicing, and payment notification.
- Marketing Information Management: by enabling communication of marketing information, such as campaign plans and design registration.

RosettaNet PIPs are actually XML specifications designed to align the specific business processes discussed above between the partners in the supply chain. The PIPs allow IT supply chain partners to fully leverage the Internet as a business-to-business commerce tool. RosettaNet business messages are sent and received over the Internet by using HTTP. XML documents are used in a PIP to specify PIP services, transactions, and messages for the purpose of providing common business and data models.

STEPml is a library of XML specifications based on the content model from STEP (Standard for the Exchange of Product model data). STEPml has been designed as a publication forum for SCM, Collaborative Engineering, Analysis, Manufacturing, and Customer Support. STEPml is by PDES, Inc., which is an international industry/government consortium for the development and implementation of ISO 10303 (PDES, 2004). STEPml combines STEP, the international standard data model, with the infrastructure of XML and the Web, thus making it a product data for the Web. Participants in STEP include: Boeing, IBM, Ford, GM, NASA, the US Army and many other companies. STEPml allows companies to communicate information about products within the organization and between the business partners by using the Internet.

The structure for STEPml markup for product data was designed based on the object modeling found in some programming language such as Java utilizing object serialization patterns for engineering data (Oasis, 2001). This was done because engineering data may not be made up of simple hierarchies the way a book is made up of chapters and chapters include sections and sections include paragraphs.

## 7. OVERALL ISSUES IN IMPLEMENTING XML BASED SCM SOLUTIONS

The open standard characteristic of XML could become its own liability. In a free market economy, large companies can customize the standards to their liking and then force them on to their suppliers. The suppliers don't have much of a choice but to buy into these customized standards resulting in more XML based standards. Other companies can mold an open standard more easily. Although there are groups

that facilitate the creation of industry specific XML standards, some companies that are unwilling to wait for the new standards to develop, have gone and developed their own. This is the case where Visa International invested significant resources into developing an XML vocabulary for sharing credit card information.
Now, should a neutral standard for the credit card industry emerges, Visa will stick to its own. As a result hotels may have to incorporate separate XML standards for each credit card (Heller, 2001).

## 8. CONCLUSION

XML will continue to play a critical role for the all of the business entities in the supply chain. XML has simplified communications among the various business entities. In effect, it has created a revolution for displaying various business data. Unlike HTML that describes how data is being displayed on the browser such as in boldface or italic, XML can describe what kind of information is being displayed such as price, manufacturer, and stock number. XML enjoys a rich and flexible format that converts suppliers' contents and then can share it with multiple organizations. The Internet provides the ideal medium for transporting information to the various business entities and XML has certainly paved the way for more businesses to engage the Internet as the means to communicate information among suppliers, manufacturers and buyers. XML certainly holds the promise of simplifying information flows for supply chains. The aim of this exploratory study in the investigation of old EDI-based and newly developed XML-based supply chain technologies was to leapfrog into the future, and to make a prediction for the direction of SCMS.

The power of XML in enabling interoperability and simplifying the sharing and reuse of information between business domains is encouraging companies to work together to develop XML-based specifications for the business information they exchange most often. Current research examines the difficulties encountered as part of the adoption process (Patterson et al, 2004). The challenge for technology vendors, e-commerce participants, and standards bodies is to capitalize on the experience available in the knowledge representation and distributed agent communities.

As demonstrated, XML standards are evolving in every industry. While the cost of EDI has become more prohibitive for small companies to acquire in addition to EDI's drawbacks, shifts a way from EDI and to XML have been on the rise. XML's contribution to the interoperability allows the transmission of standard business documents among business partners through the Internet. The Low cost and open nature of the Internet will continue to provide fuel for this shift. Hence, it is only a matter of time before XML-based solutions will replace EDI making XML-based solutions the defacto standard for SCM.

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# USING THE WEB TO ENHANCE LEARNING AND INCREASE THE APPEAL OF ECONOMICS

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**ABSTRACT**

Often economics courses are regarded by students as difficult and somewhat boring. To avoid this image and make their courses more effective, many professors are trying to reduce lecture as a teaching method in favor of activities that will involve students in learning and enable them to see the application of economic principles to real life situations. They seek to turn the "Dismal Science" into a vibrant, relevant, interesting subject. This paper deals with some Web resources which can be used to apply economic principles, enable students to gain additional practice outside the classroom, update economic data and statistics, and hopefully overall enhance the student learning experience without "watering down" the course. The resources presented are grouped into two categories: the first is interactive graphs, tables, and tutorials and the second is simulations and games.

**Keywords:** Web resources, Interactive Graphs, Time Series Graphs, Interactive Tutorials, Simulations, Games

## 1. INTRODUCTION

Can lecture as a sole teaching method result in maximum student learning? If the lecturer is dynamic and energetic perhaps it can. However, the majority of professors have not been blessed with the ability to lecture in a manner that holds the attention of students effectively. Such professors find it most efficient to use teaching methods that complement lectures. For professors seeking to employ diverse methods of instruction, the Web offers a wide variety of resources that may be utilized. The purpose of this paper is to highlight some of the Web resources that can be tapped by professors of economic principles to increase the comprehension of students, provide review, and increase the opportunities for application of concepts studied. At the same time, it is hoped the resources will spark excitement and a desire to learn about a subject that is truly relevant in today's world. The resources presented may prove helpful to both online and traditional classroom professors who are trying to use a variety of teaching methods to promote student learning and at the same time make their courses more interesting and enjoyable. Before introducing the resources, an examination of the literature relating to the use of the Web in economic education is appropriate.

## 2. LITERATURE REVIEW

Over the years the Web has assumed a greater role in economic education. Initially it was used mainly to present tutorials and facilitate communication (e-mail). In recent years it has assumed greater prominence. In fact, the Journal of Economic Education began in 2000 including a new section called "Online Teaching Resources." "The primary goal of the Online section is to identify exemplary material for teaching and learning economics that is interactive or otherwise not conducive to traditional printed-page format" (Sosin and Becker, 2000).

The ability to view the entire process of creating a graph accompanied by written or audio explanations is a virtue of the Web in economic graphical presentations (Daniel, 1999). Also, students can manipulate the graphs and view the consequences.

The Web offers the following advantages in improving student learning and generating student interest: it provides current data (news stories, statistics, speeches etc.) that makes economics more relevant to students, the Web enables each student to take advantage of the resources which best fit his (her) learning style, and finally it promotes collaborative learning (Simkins and Sossin, 1999).

One of the more complex economic Web based applications is simulations. Web-based simulations actively involve students, use a medium with which students are familiar, and require students to "make use of class material, not merely memorize it;" Web-based simulations are also great for collaborative learning (Schmidt, 2003).

There is much debate about the effectiveness of the Internet as a teaching/learning tool; however, more and more studies are showing positive results. In a nationwide survey of 2,316 professors from various disciplines, 82 percent felt the Internet had a positive effect on their teaching (Jones, 2002). Leuthold (1998) reported the following feedback from students concerning the use of a homepage in an introductory economics class: 65 percent felt the homepage helped them understand the lecture concepts, 86 percent indicated the homepage either increased or somewhat increased their learning and 66 percent believed that their motivation to learn was increased.

## 3. THE WEB RESOURCES

### 3.1 Interactive Graphs, Tables, and Tutorials

Graphs play an important role in economics as a means of illustrating economic concepts and principles. The old saying, "One picture is worth a thousand words," is very true when it comes to explaining relatively simple or more complex economic subjects. However, students often find graphs difficult to understand. The Web sites introduced in this section may be used by a professor in introducing economic concepts, or links to the sites can provide an opportunity for students to explore the graphs further after the initial introduction of them in class. The sites also enable students to review key graphs. Since some of these sites are copyrighted, permission should be obtained before linking to them.

Think Economics (http://www.whitenova.com/thinkEconomics/) presents interactive graphs using Macromedia Flash. The creators of the site, Dennis and Rebecca Kaufman, make the following statements in their introduction: "Through interactive graphs, Think Economics illustrates basic economic principles that are taught in a college-level introductory economics course. These graphs enable students to develop analytic and deductive reasoning skills by manipulating graphical elements of the economic models. Students also learn how to apply these models to analyze and understand economic phenomena." They also point out that students often have trouble replicating and manipulating graphs presented by professors. Interactive graphs overcome this problem. Such graphs also enable students to continue working with a model until they thorough understand it. Tutorials and interactive graphs are available on the following economic principles:

- Changes in supply, demand, and market equilibrium
- A firm's long run average cost curve
- Profit maximization for a competitive firm
- Market equilibrium in the long run
- The aggregate demand and aggregate supply curve
- Macroeconomic phenomena in the AD/AS Model
- Economic policy tools

Another excellent site for interactive graphs (and more) is the Bert Wheeler Principles of Macroeconomics Web site (http://people.cedarville.edu/employee/wheelerb/macro/flash/flsh.index.html). Dr. Wheeler refers to the aids he has created as "animated economics graphs." Following are the graphs available at his site: Supply and Demand, Consumption and Investment, Aggregate Demand, Money, Schools of Thought, Developing Countries Profile, Basics of Aggregate Demand and Aggregate Supply, Equilibrium Income, Long Run Aggregate Supply, Banking, International Trade, Economic Development Theory, National Income Accounting, Multiplier, Economic Growth, The Federal Reserve System, and International Finance and the Foreign Exchange Market. Professors interested in creating their own animated graphics using Shockwave Flash should see the article by Dr. Wheeler cited in the references section of this paper.

The Short Run Web site (http://www.theshortrun.com/main.html) has a Flash graph which provides a vivid illustration of the production possibilities curve (to get to the graph, double click on "Classroom" and then click on "Key Economic Graphs"). As the student clicks on an advance button, a graph showing product

X on the vertical axis and product Y on the horizontal axis is formed. Another click and a concave production possibilities curve appears along with an explanation stressing that a fixed amount of either X or Y can only be produced due to scarce resources. Points on the curve, outside the curve, and inside the curve appear and are explained when the advanced button is clicked again. Further clicks produce the following illustrations accompanied by explanations: a movement from one point on the curve to another and the law of increasing opportunity cost, a rightward movement of the curve due to a technological advance, a leftward movement of the curve due to a resource supply shock, and a shift of the curve due to new technology enabling product X (or Y) to be produced more efficiently. This interactive graph could be used by the professor to introduce the production possibilities curve, or students could be given a link to the graph so that they could review it on their own.

Samuel Baker provides a number of interactive tutorials at his Web site (http://hadm.sph.sc.edu/Courses/Econ/Tutorials.html). Among the economic tutorials are the following: Total Cost, Variable Cost, and Marginal Cost; Marginal Cost and the Price-Taking firm's Optimal Output Rate; Average Cost and the Break-Even Output Rate; Demand; Elasticity; Elasticity II; Supply, Demand, and Equilibrium: Monopoly; Marginal Revenue and the Profit-Maximizing Price and Output Rate. Requiring students to study the tutorials would be an excellent way of supplementing lectures and providing additional exposure to many key economic concepts.

There are many Web sites that allow creation of time series graphs. One of the best is the Economagic site (http://www.economagic.com/). The user can retrieve data and custom charts for 200,000 time series data sets. Most of the time series data relates to the United States, but some data is available for Europe, Japan, and Australia. Data is available by state; for example, clicking on Arkansas resulted in 2,309 different data sets, including extensive statistics by state, county, and major cities.

### 3.2 Simulations and Games

With all the publicity associated with the large deficits of our Federal government, students find the chapter devoted to the national debt one of the most interesting chapters they study. What better way to expose students to the problems and tradeoffs connected with balancing the Federal budget than to get them actively involved in the process. In the National Budget Simulation (http://www.nathannewman.org/nbs/) students are presented with the main line items in the Federal budget and have to decide whether to maintain each item at the current level, eliminate the item, reduce it by 10, 20, 30, 40, 50, or 70 percent, or increase it by 10, 20, 30, 50, or 100 percent. Two versions, a short and a long version, are available for 2006. To contrast the two versions, in the short version there is a budget allocation for "Military Spending." In the long version, "Military Spending" is broken into the following categories: military personnel; operations and maintenance; procurement; research, development, test and evaluation; family housing and other; atomic energy defense activities; and defense-related activities. The figures which participants adjust are those proposed in the 2006 budget by the White House. Students can be asked to make adjustments to eliminate the deficit or reduce it to a given size. They can be instructed to indicate the expenditures they reduced and/or the taxes they increased and write a justification for their choices commenting upon political feasibility and opportunity costs involved.

Many college students have a great love for sports. One way to make economics more relevant to such students is to apply concepts to pro team sports. A simulation called Peanuts and Cracker Jacks (complete with sound effects) at the Federal Reserve Bank of Boston Web site (http://www.bos.frb.org/peanuts/leadpgs/intro.htm) involves a nine inning interactive baseball game in which students respond to questions testing their knowledge of both economics and sports trivia. A player is asked from three to nine questions per inning with three wrong answers equaling three outs. The questions are selected at random and have four levels of difficulty depending upon whether they result in a single, double, triple, or home run. Players move around the bases as in a regular baseball game. As soon as a player answers three questions incorrectly, the inning is over and a new inning begins. An inning also terminates if a player answers a total of nine questions without missing more than two of them. Before each inning, The Sports Page which relates sports and economics can be read and serves as a tremendous aid in answering the questions.

Peanuts and Cracker Jacks covers a wide variety of economic principles—demand and supply, factors of production, division of labor, specialization, comparative advantage, marginal utility, diminishing marginal utility, opportunity cost, etc. A teacher's guide covering each inning of the game is provided with suggestions for learning activities as well as discussion questions. Since many of the activities might seem too elementary for college students, a professor would probably desire to develop his own approach to the use of the game. One alternative would be to ask students near the end of the semester to play the game and make a list of all the economic terms they encountered and then explain specifically how each term relates to pro sports. Another option would be to prepare an online quiz to test student comprehension of the application of economics to pro sports. Either option would promote student review and retention of economic terms.

Another somewhat juvenile but at the same time very thorough resource in reviewing the Fed and monetary policy is the game Fed Clue (http://www.federalreserveeducation.org/fed101/fedclue/). The entire game consists of forty questions but players can select questions pertaining only to each of the following sections: financial regulation and supervision, functions performed by the Treasury, monetary policy and economic activity, monetary policy instruments, monetary policy: limitations and advantages, serving as banker's banks, system functions and objectives, the policymaking process, the structure and operation of the system. For each multiple-choice question, a narrative provides clues as to the answer. The game can be played by one player or a group of players. There is a time limit for completion of the game. For a real challenge, students could be asked to answer the questions without referring to the clues. The author did so and missed a few questions.

## 4. CONCLUSIONS

The Web offers many excellent resources to economics professors. This paper has highlighted only a few of them. Hopefully over time more and more professors and organizations will develop teaching/learning resources and make them freely available on the Web. As Becker (2001) comments, "To show the power of economics and to attract creative students, instructors at both introductory and intermediate levels need to consider abandoning their reliance on chalk-and-talk methods, updating their curriculums, and changing the focus of their examples to reflect the issues that students care about and know will be relevant to them." Perhaps the Web can play a major role in making economics the sexy social science (as Becker calls it).

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## A PRELIMINARY EMPIRICAL INVESTIGATION OF THE INTERNET AS A CONDUIT FOR WHITE-COLLAR CRIME

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### ABSTRACT

*The Internet has revolutionized how business is conducted. It is an indispensable marketing tool for empowering customers, enhancing sales, improving efficiency, and integrating organizations. Its reach permeates daily life. Yet, its very existence may be jeopardized. According to seasoned law enforcement officers, Internet crime is growing dramatically and domestic organizations are ill-equipped to combat the growing menace. Coordinated international and domestic cooperation by government and business must be harnessed to ensure the Internet continues to flourish, and that individuals do not lose faith in its ability to handle business transactions.*

### 1. INTRODUCTION

The Internet has revolutionized business and society in general. It has been called "the most important invention since fire" (The Week 2005, p.16). In excess of 300 million persons in North America use the Internet (Internet World Statistics 2006). Without question the Internet is altering the way individuals communicate between themselves and conduct business. Sixty-five million people "hangout" together in a virtual community at MySpace.com (Levy and Stone 2006). Forrester Research Inc. estimated last year's online holiday sales at $18 billion (Mullaney 2005).

Business-to-business electronic commerce is now the primary way of interacting to obtain prices quotes, place orders, and even track the location of inventories. Websites are indispensable marketing tool conveying ordering information, company history and policies, in-depth product and service descriptions, achievements, and more. The Internet has become a stable and dependable conduit between individuals and businesses. Advertising dollars being invested to reach a firm's potential customers on web sites where Internet users have demonstrated interest through their visits now exceed eight billion annually (TNS Media Intelligence 2006). From January to March of this year, online advertising revenue increased 38 percent to $3.9 billion from the pervious same period last year (Tampa Tribune 2006).

This phenomenon is not limited to North America. China has an estimated 111 million Internet users (Roberts 2006). Motorola introduced a new line of youth-oriented mobile telephones in China not via traditional media but through a pair of Chinese college students who posted homemade lip-synching videos on the Internet. "A related lip-synching and song re-mixing competition garnered 14 million page views" (Roberts 2006, p. 46). Businesses, especially small businesses, have recognized that their "customer reach" is now virtually global and operational 24/7/365.

From home, work, Internet café and now completely wireless, access to the Internet is no longer an issue. Individuals take advantage of what is often superior Internet access from their place of work. A recent study conducted by BURSTEK discovered that 78% of all users accessed the Internet while at work for personal use and entertainment (Business Wire 2006). As you might expect, criminals also recognize the power of the Internet. "Annual losses to all types of computer crime" is estimated at $67 billion a year (Ante and Grow 2006). In some cases criminals have simply modified their criminal scheme to effectively employ the application of computer technology and the Internet to traditional white-collar crimes. More disturbing, criminals have discovered new schemes to defraud individuals and businesses that attack vital components in the new world of global commerce, thus potentially eroding trust in e-commerce. In a study of U.S. banking customers, 65 percent indicated they were less likely to use online banking services because of online fraud while 75 percent were less likely to respond to an e-mail from their bank because of concern about online fraud (Wetzel 2005).

#### 1.1 White-Collar Crime

White-collar crime in and of itself is a very complicated crime, but when you add the Internet to the crime, the investigative responsibility and enforcement clogs the very essence of the Judicial System. Law enforcement discovered that a burglar was utilizing the Internet to fence stolen property. In Massachusetts, two individuals had allegedly committed over 100 burglaries and sold the stolen property over the Internet on eBay (Swanson et al. 2006). Internet crime is part and parcel of white-collar crime, and when it came to light in the 1990s, it was considered the "crime of the new millennium" (Swanson et al. 2006, p. 468).

Internet fraud is only one aspect of white-collar crime but its recognized risk and unprecedented growth has led to the expansion of federal intervention. The Internet Crime Complaint Center, known as IC3, recently released the results of their 2005 national survey which found that nearly one in two households (47%) reported having experienced white-collar crime victimization within the past year (Internet Crime Complaint Center 2005). Internet fraud is the leading white-collar crime being reported. The Internet facilitates many types of white-collar crime besides identify theft; including bank, credit card, and securities/investment fraud. There are many ways that identity theft occurs, but the most popular utilizing the Internet is where individuals hack into personal computers and download spyware programs to be used through the Internet to scam individuals by stealing information. This is one form of phishing (Swanson et al. 2005).

The ubiquitous phishing e-mails promise instant wealth or identify verification because, ironically, your financial account information was compromised over the Internet. "More than three out of four (76%) consumers are experiencing an increase in spoofing and phishing incidents, and 35 percent are receiving fake e-mails at least once a week, according to a recent national study" (McCarrell 2004, p. 14). Losses due to these white-collar crimes are estimated at $50 billion annually (Swanson et al. 2006).

As technology improves so does the advance of criminal activity. The Internet has afforded criminals the opportunity to commit fraud with anonymity making it difficult to actually identify the perpetrators, let alone arrest them. According to research, this type of crime will continue to increase. "Internet credit card fraud alone will increase worldwide from $1.6 billion in 2000 to an estimated $15.5 billion by 2005" (Siegle 2005, p. 80). The Internet's communication ability alone can facilitate crime. A security flaw at Washington Mutual "in the communication between the bank's ATM machines and its mainframe computers made it especially easy to manufacture fake Washington Mutual ATM cards," which quickly were disseminated throughout chat rooms worldwide (Gomes 2005, p.B1). Criminals would then sell these capabilities to other criminals for a "percent of the take." And much like vendor ratings on eBay, criminal partners are ranked, and rankings are posted on the Internet.

This crime can also be mass distributed to anyone with an e-mail address in hopes of luring them into the bogus scene (Federal Trade Commission 2006). Since many phishers pose as well-known institutions and retailers, this strikes at "the heart of their trust-based relationships with customers. By impersonating financial institutions, phishers can undermine the confidence, that customers place in their financial institution's electronic delivery channels, including call centers, card issuing, and home banking—potentially damaging the institutions' brand and reputation" (Span 2004, p. 42). Beyond financial losses, it can damage the institution's ability to retain, attract, and expand business with customers.

Because the Internet is not located in any one jurisdiction, or even country, the enforcement of crimes perpetrated by its use is exceedingly difficult. Hardly anyone has been spared from receiving an e-mail from Nigeria offering a substantial fee for helping to move large quantities of money internationally. An estimated 10,000 Nigerians engage in Internet fraud (Salu 2004). With regards to the United States, local law enforcement has difficulties enforcing laws from outside their specific jurisdiction. Through one of the author's extensive law enforcement experiences, he has found in many cases, where crimes that are committed upon citizens within a specific jurisdiction, it is difficult to determine which criminal justice agency should handle such an incident. What you find is that local law enforcement, utilizing various investigative methods, lures the suspect to their jurisdiction in order to make the arrest. In other situations, you would find investigators from local agencies being assigned to various joint task forces in order to increase their jurisdiction and investigative power. Depending on the type of crime, distance from where the perpetrator resides, and the interest of law enforcement, arrests, and case closures, can be slim and prosecution difficult.

For these reasons, it makes sense that an agency with broad powers and large geographic jurisdiction handle such incidents. This is where the United States Department of Justice plays an important role. The Department of Justice is run by the United States Attorney and has jurisdiction to enforce federal laws within any U.S. state or territory. Under the Department of Justice is the Federal Bureau of Investigations (F.B.I.). This investigative agency with 11,400 special agents has jurisdiction to investigate white-collar crimes and crimes that are perpetrated via the Internet. Furthermore, the F.B.I. collects crime statistics from local law enforcement through the use of the Uniform Crime Report (U.C.R.).

After the terrorist incidents that occurred in the United States on September 11, 2001, the F.B.I. was tasked to be the lead criminal justice agency in investigating terrorism. From this responsibility, the F.B.I. developed a Cyber Division for the purposes of combating terrorism where the Internet and computer systems were both targeted (Siegle and Senna 2005).

In addition to the F.B.I.'s Cyber Division, several federal agencies joined together to form the Interagency Telemarketing and Internet Fraud Working Group to share information, and to target and prosecute individuals committing Internet crimes. This task force is comprised mainly of agents from the F.B.I., Federal Trade Commission, Postal Inspection Service, Security and Exchange Commission, and the Secret Service (Siegle and Senna 2005).

The F.B.I. has also partnered with the National White-collar Crime Center which includes law enforcement and regulatory agencies from the local, state, federal, and international communities to develop the Internet Crime Complaint Center (IC3), which was previously discussed. The focus of this organization is to monitor complaints involving Internet-related crimes (Internet Crime Complaint Center 2006).

Non-profit organizations have also joined the battle against Internet crime. The United States Internet Crime Task Force, Inc. is one such organization. It is a non-profit, government-assisted agency that was founded in 1999. The organization shares intelligence, assists victims, and monitors chat rooms for criminal activity. It is made up of U.S. and Canadian law enforcement officers (U.S.I.C.T.) (The United States Internet Crime Task Force, Inc. 2006).

The government is also finding that traditional organized crime groups are working in foreign nations, which currently provides them with some level of protection from detection. In the past, these criminal organizations were involved in garbage hauling, construction, waste disposal, loan sharking, fraud, money laundering, and prostitution. But now they have entered into cyber-crime. In 2000, members of a traditional organized crime family stole $400 million in electronic banking funds via the Internet. Organized crime is now using the Internet to overcharge customers, conduct gambling operations, and launder money (Williams 2006). In a brazen move, organized crime is also using the Internet to recruit new members through online job postings. These members are being recruited to assist in worldwide identity and credit card theft rings which employ the Internet to facilitate their criminal activity (Locklear 2003).

The F.B.I. and the Justice Department have made some arrests involving Internet fraud, such as the case of *Operation Slam Spam,* where federal agents arrested 51 individuals and an additional 260 are still under investigation. The investigation uncovered more then 332,500 victims with losses nearing $145 million (Freiden 2004). These case alone involved locations in New York, Texas, and Wisconsin. Cases like this are sensational but take an enormous amount of time and personnel to investigate (Freiden 2004). However, Internet criminals are becoming faster and more creative. They are now engaging in *Hybrid* attacks. These attacks are part of a major phishing movement utilizing worms and virus to attack unsuspecting Internet users (VeriSign 2004).

## 2. METHODS

The category of white-collar crimes is extensive, but for the purposes of this study, we narrowed the focus and centered our findings on the Internet and white-collar crime. We identified four categories of white-collar crime that are prevalent on or facilitated by the Internet: bank fraud, credit card/ATM fraud, identify theft, and securities/investment fraud. Although categorized separately, many white-collar crimes fall within multiple categories, for example 16 percent of new credit card accounts involve identity theft (Carlson 2006).

Our survey incorporated a Literature Review and the knowledge of two law enforcement officers, each with over 25 years of investigative experience, including one of the authors. Through multiple iterations, a rough draft was developed. It was modified repeatedly during the pre-test, a protocol analysis with 12 law enforcement officers. The survey was administered nationally through the Multi-Jurisdictional Counter Drug Taskforce Training Center, one of the largest law enforcement training facilities in the country. Additional, it was disseminated throughout Florida to local and state law enforcement agencies.

Data was entered by one person and then reviewed by another to ensure no data entry errors. Frequencies were then examined as a second check to ensure no data points were outside the range of feasible answers. Means are tested against the scale's midpoint (four or 5.5, depending on the scale).

## 3. RESULTS

One-hundred and six surveys were collected. None were unusable due to incomplete data or failure to take the exercise seriously (n=106). The sample represents seasoned law enforcement officers. They averaged more than 12 years of experience, which is high, considering law enforcement officer may retire after 20 years. Although all law enforcement officers at least tangentially work white-collar crime, over 12 percent of our sample has worked white-collar crime full time and 10 percent currently work Internet white-collar crime.

Ninety percent of the agencies employing our respondents specifically work white-collar crime and 75% work Internet white-collar crime. The majority of agencies are local: sheriff or municipal (81%), while a fifth are evenly divided between state and federal (19%) (Table 1). Surprising, a predominately local sample views the federal government as the agency that should assume primary responsibility for white-collar crime (85%), while 42 percent designated state agencies, with sheriff, municipal and international each garnering about 21 percent. (Note: Respondents could designate multiple agencies for lead responsibility.) All agree, though, even the federal government is inadequate in the face of a global adversary, thus global cooperation is necessary (t(104)=-6.1, p=.000, mean=2.92). (Scale was one being strongly agree and seven being strongly disagree.)

**TABLE 1**

Agency Employed by:

| Federal | State | Sheriff | Municipal |
|---|---|---|---|
| 9.5% | 9.5% | 40% | 41% |

Primary Investigative Responsibility for White-collar Crime (Note: Respondents could designate multiple agencies for lead responsibility.)

| Federal | State | Sheriff | Municipal | International |
|---|---|---|---|---|
| 85% | 42% | 21% | 23% | 23% |

The Internet, according to our sample, is involved with most white-collar crimes (t(100)=-4.1, p=.000, mean=3.35) (Table 2). The sample also strongly agrees that the Internet has made white-collar crime easier (t(104)=-8.79, p=.000, mean=2.34). (Scale was one being strongly agree and seven being strongly disagree.) The Internet has revolutionized all facets of our life, including nefarious ones. This has made law enforcement's job more difficult, resulting in a sobering assessment from those confronting crime daily: we are losing the war on white-collar crime, at all levels. Respondents were unequivocal in this assessment (t(105)=8.06, p=.000, mean=5.2), but less sure about who to blame since all involved do not understand how to combat it (federal (t(104)=2.53, p=.013, mean=4.4) (state (t(102)=3.99, p=.000, mean=4.59) (local (t(104)=4.53, p=.000, mean=4..72) (Table 2). All were equally to blame in not allocating the necessary resources (federal (t(103)=5.33, p=.000, mean=4.87) (state (t(104)=7.49, p=.000, mean=5.04) (local (t(105)=7.21, p=.000, mean=5.13).

**TABLE 2**

| Statement | t (df) | p | Mean |
|---|---|---|---|
| Combating white-collar crime requires greater cooperation among nations? | -6.1 (104) | .000 | 2.92 |
| Most white-collar crime involves the use of the Internet? | -4.1 (100) | .000 | 3.35 |
| The Internet has made white-collar crime easier for criminals? | -8.79 104) | .000 | 2.34 |
| Law enforcement (all levels) is winning the war against white-collar crime? | 8.06 (105) | .000 | 5.2 |
| Law enforcement at the federal level understands how to combat white-collar crime? | 2.53 (104) | .013 | 4.4 |
| Law enforcement at the state level understands how to combat white-collar crime? | 3.99 (102) | .000 | 4.59 |
| Law enforcement at the local level (sheriff's offices and municipal police departments) understands how to combat white-collar crime? | 4.53 (104) | .000 | 4.72 |
| Law enforcement at the federal level is allocating the necessary resources to combat white-collar crime? | 5.33 (103) | .000 | 4.87 |
| Law enforcement at the state level is allocating the necessary resources to combat white-collar crime? | 7.49 (104) | .000 | 5.04 |
| Law enforcement at the local level (sheriff's offices and municipal police) is allocating the necessary resources to combat white-collar crime? | 7.21 (105) | .000 | 5.13 |

Note: Scale was one being strongly agree and seven being strongly disagree.

We identified four categories of white-collar crime that are prevalent on or facilitated by the Internet: bank fraud, credit card/ATM fraud, identify theft, and securities/investment fraud. The extent of financial damage done to organizations or individuals by each type of crime, according to our sample, was severe, with identify theft the most extensive (t(104)=19.84, p=.000, mean 6.27), followed by credit card/ATM fraud (t(105)=12.68, p=.000, mean=5.74), bank fraud (t(104)=8.78, p=.000, mean=5.18), and securities/investment fraud (t(103)=4.95, p=.000, mean=4.9). (Note: Scale is one (low) to seven (extensive). Even more unsettling, our law enforcement officers believe that all four categories will increase in frequency over the next three years. A startling 92 percent believe identity theft will increase and, equally disturbing, 86 percent believe credit card/ATM fraud will increase (Table 3). Over half percent believe bank fraud and securities/investment fraud will grow in frequency over the next three years.

**TABLE 3**

| Crime | Increase | No Change | Decrease |
|---|---|---|---|
| Identify Theft | 92.3% | 6.7% | 1% |
| Credit Card / ATM Fraud | 85.7% | 11.4% | 2.9% |
| Bank Fraud | 60% | 38.1% | 1.9% |
| Securities/investment Fraud | 53.8% | 43.3% | 2.9% |

## 4. CONCLUSION

The Internet facilitates white-collar crime, and its use as a conduit for crime is growing exponentially. Law enforcement predictions are that white-collar crime will increase substantially in the future; especially identify theft and credit card fraud. As the Internet links companies and countries globally, it becomes an indispensable commerce medium. Its elimination or diminishment would sharply curtail international commerce. Dire predictions may seem to be hyperbole, but if individuals lose trust in the Internet as a way to communicate and consummate trade, global Internet commerce may drop dramatically.

To combat this threat effectively, business must collaborate with national law enforcement, which according to law enforcement experts should have primary jurisdiction. However, this is a global epidemic that will require cooperation among nations. Within the U.S., national business associations must lobby Congress for funding to identify and eradicate this new criminal menace. As the Internet becomes further meshed in the commerce and personal lives of all Americans, it is vital for twenty-first century commerce to succeed in protecting this new and vital business tool. Nations that do not rely on the Internet will be left behind in the global competition that dominates, and will continue to dominate, our global economy.

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**EMPIRICAL EVIDENCE OF LEARNING FROM AN UNDERGRADUATE SEMINAR IN FINANCE**

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**ABSTRACT**

This analysis examines the processes used to measure learning in a capstone course in undergraduate finance. Learning goals consistent with the university's and College of Management mission are identified. Of these goals, two are selected and an assessment tool (or rubric) is developed. Empirical results show significant improvement in achieving learning objectives so that learning is reasonably assured. Implications for curriculum development and instructors are also discussed.

Keywords: *AACSB, assurance of learning, learning assessment.*

## 1. INTRODUCTION

If one were to ask an auditorium full of people, "Who among you drove here today?" it is likely that a significant proportion used that form of transportation, and further queries would undoubtedly reveal that virtually all motor vehicle operators received a passing grade on their written and driver's exams. If this is a sufficient verification of learning, we would never observe what is depicted in the picture below. That is, these two drivers each purportedly received a passing grade. The problem is there isn't much evidence of learning.

This isn't to say that grading *isn't* a measure of learning. Most of the time, a student who earns an "A" has learned and one who receives a "D" is deficient in many areas. (We may also measure student learning through standardized tests such as the Educational Testing Service – Major Field Achievement Test (ETS-MFAT), or focus groups, etc.) The problem with "grading" and "outcomes assessment" is that they occur *á posteriori*. This is tantamount to asserting that "these students maybe didn't learn, but the next group will." As suppliers of higher education, we need to ensure ourselves and our students, which are out clients, that learning has actually occurred. In this context, it is no longer sufficient to merely assign grades to students and measure outcomes.

The need for learning assessment is recognized in the current standards set forth by the AACSB International. Below is an excerpt from the AACSB Standards for Assurance of Learning:

> Student learning is the central activity of higher education. Definition of learning expectations and assurance that graduates achieve learning expectations are key features of any academic program (p. 57).

The emphasis on learning assessment is also evidenced by a growing body of literature including Andrade (2000), Angelo (1999), Enerson, Plank, and Johnson (1994), Ewell (2003), Jacobs (2002), Leskes (2002), Maki (2002), and Rodrigues (2002). The issues addressed in the literature are widespread, ranging from pragmatic approaches to using assessment tools (as in Andrade and Enerson, Plank, and Johnson) to administrative issues as addressed by Rodrigues such as faculty "buy-in" of assessment tools.

The process described by AACSB and prior researchers is to define learning goals consistent with the college's mission statement, and the students' success at achieving these goals measured. If the goals are not met, remedial actions must be taken. These are described in turn in the pages that follow. The specific objective of this article is to describe the assessment process used in Finance 81 (Seminar in Finance) at the C. W. Post College of Management of Long Island University. Our study begins with a definition of learning goals in Section II. Section III describes the assessment tool that is used, and Section IV contains the results of this pedagogy. A final Section V contains implications for the College of Management Business Program and concluding remarks.

## 2. DEFINITION OF LEARNING GOALS FOR SEMINAR IN FINANCE STUDENTS

The Business Program at the C. W. Post campus of Long Island University has four functional areas – accounting, finance, management, and marketing. Collectively, the Faculty of the Business Program has identified six learning goals for its students. These are:

- Effective communicators;
- Knowledge of core areas (accounting, finance, etc.);
- International perspective;
- Leaders;
- Critical thinkers;
- Ethical behavior.

It is not practical to address all six learning goals in a single course, especially one as specific as Seminar in Finance, which is the capstone course for finance majors. By definition this course covers a wide variety of topics from the term structure of interest rates to derivative security valuation and real options. From the list of goals above, we must decide which learning goals are expected from students in the finance area. The instructor for the course identified two learning goals – effective communications and knowledge of a core area (finance).

The rationale for selecting "effective communications" was motivated by focus groups which suggested a need for better written and oral communications skills from graduates. The identification of "knowledge of core discipline" was selected by the instructor who wanted to ensure that graduating students had the necessary technical skills (mathematics, statistics, and computers), an understanding of financial models and their implications, and the ability to succinctly communicate analytical results through written work. In short, the instructor wants to ensure that finance graduates know that there is *no such thing* as a negative price (for a normal good), that the risk-return relationship *must* be positive, and options *always* have value greater than or equal to zero.

The task for the instructor is to be creative and design a course that establishes learning goals and methods to measure them. Further, if the goals are not realized, there must be a feedback mechanism to ensure that the goals ultimately are met.

## 3. SEMINAR IN FINANCE ASSESSMENT TOOL

The learning goals established for Fin 81 are assessed in a term paper. Since finance is an applied field, real, rather than fabricated, data is used. The process is to assign the project to students relatively early in the term so that the project can be submitted, evaluated, and revised. In this way, deficiencies can be removed in whole or in part. A reasonable question is, "Doesn't this result in grade inflation?" Experience indicates that this is not the case. If a project is allocated 30 out of 100 points for the course, it has weight sufficiently large to be taken seriously, but not so much weight that grades are skewed.

Consistent with the learning goals, the project was divided into several sections, each with an assessment value. The summary assessment sheet is shown in Appendix I. The assessment is designed to assess students' learning goal of technical skills through definition of problems, technical rigor, intuitive explanations, and summary. It also is designed to check for the learning goal of effective communications through professional presentation, grammar and spelling, etc. An aside is the literature review section which assesses reading comprehension, and also instills a desire to read the literature and a commitment to life-time learning.

The process for the Fin 81 term project requires students to submit their reports about six weeks before the end of the semester. This gives the instructor ample time to evaluate the reports and provide detailed feedback via the assessment tool or rubric. Students are then required to revise and resubmit their reports with the deficiencies removed.

Beyond a front-page or cover-sheet assessment, it is argued that it is necessary to be highly detailed in assessment of student work. In order to know how to remove learning goal deficiencies, a student must be able to see *clearly* what the problems are. For this reason, students are given an overall assessment, plus, a detailed evaluation. (The detailed assessment tool is available to readers by contacting Glenn.Baigent@liu.edu.)

An alternative on failure to achieve learning goals may lie with the instructor. It is a cold reality that students sometimes may not meet learning goals because the goals were not properly articulated by instructors, or the students were not instructed properly. This should be evident to course instructors from the assessment tool and will be discussed in the next section.

## 4. EMPIRICAL EVIDENCE OF "LEARNING" FROM SEMINAR IN FINANCE

The challenge for instructors is to determine if learning occurred, with two results. If learning has indeed occurred there must be evidence, and if it hasn't, there must be remedial action. As noted in the previous section, the assessment tool is divided into several sections, as well as an overall assessment. The table below provides evidence of two measures of learning. The initial assessment provides students with detailed feedback regarding their learning goals. Their task is to revise and resubmit their work. If learning has occurred, it is hypothesized that there must be a significant difference of mean assessments.[1] Therefore, the results of a difference of means test for each category are reported, as well as for the overall project. Second, if more students are achieving the specified learning goals, there should be more homogeneity among assessments so that the difference in variances after assessment should be smaller, resulting in a larger ratio of variances (Snedecor F test).[2]

Empirical results show that for each of the assessment categories, there is a significant increase in the students' achievements, based on the T-statistics. We conclude that this is evidence of student learning, or achievement of learning goals. Moreover, we find significant evidence that the students are more

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[1] The null hypothesis is $H_0 : \mu_0 = \mu_1$. The test statistic is $\left|\bar{x}_1 - \bar{x}_2\right| \big/ S_W \sqrt{1/n_1 + 1/n_2} > t_{n_1+n_2-2;1-\alpha/2}$ , where, $S_W^2 = \left(\left(n_1 - 1\right)S_1^2 + \left(n_2 - 1\right)S_2^2\right) / \left(n_1 + n_2 - 2\right)$.

[2] The null hypothesis is $H_0 : \sigma_1^2 = \sigma_2^2$. The test statistic is $S_1^2 \big/ S_2^2 > F_{n_1-1,n_2-1;1-\alpha}$ .

homogeneous in their achievement of learning goals following the instructor's assessment, given the F-statistic values.

| Assessed Element | T-Stats | F-Ratios |
|---|---|---|
| Introduction | 3.478** | 9.584** |
| Literature Review | 2.790** | 5.800** |
| Discussion of Problems | 3.729** | 15.500** |
| Technical Rigor | 2.479** | 4.900** |
| Intuitive Explanations | 2.730** | 11.215** |
| Summary | 3.717** | 2.714** |
| Professional Presentation | 4.350** | 1.840 |
| Grammar & Spelling | 4.215** | 3.769** |
| Word Choice | 4.890** | 1.800 |
| Clarity & Sentence Structure | 4.343** | 4.214** |
| Total | 4.877** | 5.404** |

The results are based on average student assessments for each category. "**" Indicates significance at $\alpha = 0.05$. We report only the "T" and "F" statistics for confidentiality reasons.

The list of implications from these results would be seemingly endless, so for expediency and efficiency of communications, we offer only three possible explanations for the significance of the results. First, the students' improvement is a result of recognizing their deficiencies and correcting them. Second, observing the first assessment, the instructor realized that there was a deficiency in articulating the learning goals, or the classroom instruction, and the instructor corrected the deficiency. Third, there is a confounding combined effect, but we shouldn't be dismayed; it matters little who owns what proportion of the shortcoming. What matters is that the students achieve the learning goals.

## 5. CONCLUDING REMARKS AND IMPLICATIONS

The underlying purpose of assurance of learning is that students achieve, to the best of their ability, what is required of them in their classes. Each course is an opportunity to assess students in achieving learning goals, and remedial actions can be taken at the course level, as shown in this paper. That is, there must be feedback mechanisms at the course level.

The implications for business programs are deeper than described in the paragraph above. For example, suppose that it is found that students consistently do not have sufficient writing or quantitative skills. Curriculum committees then must cause modifications to the courses and programs so that more writing and quantitative intensive courses are required. Alternatively, suppose that the consensus among faculty is that students are highly adept at accounting; do we not know that something is being done right?

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# THE ANALYSIS OF FINANCIAL PERFORMANCE IN CREDIT INSTITUTIONS

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**ABSTRACT**

*In this paper the authors show the modalities of analyzing the banks performance, using ratio analysis methods. In this way the authors take into consideration the main indicators such as: maturity rate ratio, return on assets ratio, return on equity ratio, and return on sales ratio.*

***Keywords:***

## 1. INTRODUCTION

Bankers pay a special attention to the message conveyed by the analysis based on indicators. Generally speaking, banks administer the profitability trying to "beat" the market average and to maintain a stable and predictable profit, thus attracting new investors in the banking field. In this sense, the profitability indicators are very useful elements, but the information conveyed by them have to be analyzed together with other equilibrium, administration and risk indicators, since only the profitability elements by themselves do not provide a complete image over the entire banking activity.

Assets-liabilities management became a generally accepted model for profitability management on the one hand and for risk management, on the other. The central objective of assets-liabilities management is represented by the sustained profit growth for increasing bank's capital reserves. In this sense, the strong point of every bank is represented by interest values which highlight, on the one hand, the efficiency of the mediation and, on the other, the efficiency of the results obtained by the bank. An analysis of the interest values of a bank can show the effects of the current interest rate, while an analysis of the tendencies over a longer period of time can show the effect of monetary policies over the profitability of the banking system (Geruning and Brajovic Bratanovic, 2003). At the same time, the analysis of interest rate values can show the degree in which banks are exposed to the change of interest rate and also the managerial capacity of efficient administration.

## 2. METHOD AND RESULTS

A first aspect in profit analysis based upon rates, is represented by the dynamic analysis of assets maturity. Thus, a high maturity of the less than one year assets and a decrease in the less than one year liabilities will surely determine an increase of the net income from interests.

If the over one year assets evolve on a constant basis during the entire analyzed period, and the over one year liabilities record an annual growth, than it is a negative aspect since the deposit attracted for a period of more than one year couldn't have been placed during the same period of time, thus resulting a decrease of net income from interests.

The analysis of banking performance should also be based upon the next correlated system of indicators:

Net value of bank assets (MA);
Net value of income generating, turn account assets (MAV);
Return on total assets (ROA);
Profit on margin sales (ROS);
Return on equity (ROE);
General profitability rate (RRG).

**a. Net value of bank assets** highlights the capacity of the assets to generate net earnings from interests and it is determined as a percentage report between net incomes from interests (VND) and total assets (AT) that is:

$$\mathbf{MAB} = \frac{\mathbf{VND}}{\mathbf{AT}} \mathbf{.}100$$

Net incomes from interests are determined as the difference between the cashed interest (VD) and the paid interest (CD), thus:

$$\mathbf{VND = VD - CD}$$

**b. Net value of income generating, turn account assets** (MAV) shows the degree in which such assets participate to obtaining earnings from interests and it is determined as a percentage report between net incomes from interests and turn account assets (AV), as follows:

$$\mathbf{MAV} = \frac{\mathbf{VND}}{\mathbf{AV}} \mathbf{.}100$$

Turn account assets (Dedu, 2003) represent the difference between the total assets and the sum of the following asset elements:

**Cash**
**Corporal and incorporeal immobile assets**
**Stock and inventory**
**Deductions and debtors**
**Other assets**

The concepts of turn account assets and not turn account assets refers to the involvement of bank in the crediting activity.

A high value for this indicator shows a performing banking assets and liabilities management. On the other hand, a high net value from interests can mean also an involvement of the bank in risky credit activities.

Generally speaking, a high net value from interests characterizes *retail banks*, which have an enlarged network in territory and obtain their resources at a low price. Wholesale banks have a low interest's value due to the high cost of obtaining financial resources.

**c. Return on Total Assets (ROA)** is determined as a report between net profit and total bank assets. The indicator measures the degree of profitability for the entire capital invested in the bank. In Anglo-American economic literature (Halpen, Weston and Brigham, 1998), the indicator is also called Return on Total Assets – ROA) or the Return on Investment – ROI):

$$\mathbf{ROA} = \frac{\mathbf{RNE}}{\mathbf{AT}} \mathbf{.}100$$

According to other American analysts (Backer, Elgers and Asebrook, 1988), the indicator is determined as a percentage report between the net current result from exploitation (RNCE) and total assets recognized in the financial position of the bank (AT).

$$\mathbf{ROA} = \frac{\mathbf{RNCE}}{\mathbf{AT}} \mathbf{.}100$$

In this case, the indicator measures the efficiency of the utilization of bank assets in the operational activity of crediting and bonds transaction.

In the Romanian banking system, the levels of the indicators developed as follows (www.bnr.ro): -1.5% in 1999; 1.5% in 2000; 3.1% in 2001; 2.6% in 2002 and 2.2% in 2003. The levels recorded by this indicator in USA (www.federalreserve.gov) were of: 1.12% in 1999; 1.13% in 2000; 0.91% in 2001; 1.11% in 2002; 1.26% in 2003 and 1.16% in 2004.

**d. Profit on Margin Sales-PMS** is determined as o percentage report between the net result of the exercise and the net business figure. In American literature, the indicator is often called Return on Sales - ROS.

$$\mathbf{ROS(PMS)} = \frac{\mathbf{RNE}}{\mathbf{CAN}}\mathbf{.}100$$

The indicator shows, on the one hand, the profit obtained for 100 Lei business figure and, on the other hand, the incomes contribution to strengthening the bank's capacity of self-financing. According to certain American analysts (Backer, Elgers and Asebrook, 1988), the indicator is determined as a percentage report between the exploiting result and the net business figure.

**e.** Another aspect considered in analyzing bank performance refers to the **return on own capital** or **return on financial rate**, which can be shown with the help of the indicator „Return on own capital rate" determined as a percentage report between net profit and own capital.

In professional literature, the indicator is met under the name of „Return on Equity – ROE or Return on Common Equity – ROCE and measures the degree of return on investments made by shareholders (Halpen, Weston and Brigham, 1998) in operating activity, as well as in extraordinary activity.

The return on common equity is a combined measure consisting of three factors as follows: profitability, assets' rotation speed and of the financial leverage. If the return on common equity registers variations from one year to another, financial analysis has to determine which of the consisting rates led to the respective variation.

| | | | | | | |
|---|---|---|---|---|---|---|
| **Return on Common equity** | **=** | **profit value** | ***** | **assets speed of rotation** | ***** | **financial lever** |

**= net profit/net business figure * net business figure/ total assets * total assets/common equity = return on assets * total assets/common equity**

The values recorded by this indicator were as follows: 14.07% in 1999; 9.57% in 2000 and 7.18% in 2001. In Romania (www.bnr.ro), the indicator recorded the following levels: -15.3% in 1999; 12.5% in 2000; 21.8% in 2001; 18.3% in 2002 and 15.6% in 2003. In USA, the analyzed indicator developed as follows (www.federalreserve.gov): 15.39% in 1999; 15.19% in 2000; 11.86% in 2001; 14.11% in 2002; 16.28% in 2003 and 14.27% in 2004.

The return on common equity and its elements of influence represent the starting point in the systemic analysis of previous financial situations of the bank with the help of profitability indicators, assets use and return on common equity leverage.
A specific indicator of financial performance is the *profit value* that represents a function of both the exploiting leverage and the added value during the financial cycle, synthesizing the earnings obtained from every monetary unit resulted from financial operations.

*The second coordinate* for analyzing the return on common equity is represented by **assets rotation speed**. The return on assets rates show bank's incomes and expenses, either for analyzing the structure of the costs, or for linking together crediting performance with the volume of assets resulted from their accomplishment.

The third dimension of analyzing the return on own equity is represented by the financial leverage. In professional literature (Halpen, Weston and Brigham, 1998), the indicator is also called „**Common Equity Multiplication Factor"**. A bank uses both funds attracted and borrowed of different kinds and shareholders funds. The utilization of these two categories (own and foreign) depends on the bank's attitude towards risk and towards profitability.

**f. General profitability rate** will be determined under the form of a percentage report between the net result of the exercise and the total expenses of the bank during the reporting period.

$$\mathbf{RRG} = \frac{\mathbf{RNE}}{\mathbf{CTE}}\mathbf{.}100$$

The indicator highlights the efficiency of the entire resource consumption at the level of the credit institution.

## 3. CONCLUSIONS

Rates represent useful analysis instruments that synthesize a large volume of data in a form easier to understand, interpret and compare. At the same time, they show certain limits that have to be analyzed for every case alone. When comparing rates from different periods of time, we have to take into account the environment of the credit institution activity, as well as the influence of certain changes over the financial reports, such as: the change of the economic environment and of the supplied geographic markets.

Rates do not represent the final point of the analysis and do not represent by themselves the positive (strong points) or negative (weak points) elements of the activity of a bank or of its management. In our opinion, rates show only the domains that require an additional investigation.

The analysis based upon the rates built by the analyst out of the financial situations should not be combined with the investigation of other factors before drawing realistic conclusions and before making recommendations for the measures to be taken by the leadership of the enterprise.

The appreciation of the fact that a certain indicator is too high, too low or normal, depends on the interpretation of the results by the analyst who takes into account, on the one hand, both the activity of the bank and its standing within the banking sector, and, on the other hand, the strategy adopted by the bank on a private market.

The objective of the rates variation analysis consists of determining the causes and the effects of the rates on the capacity of the bank to fulfill, at any moment, the requests of the clients to withdraw the sums loaded in their account.

In our opinion, the one-sided analysis of a single rate or several rates can lead to erroneous conclusions regarding the bank's financial equilibrium. Therefore, a combined analysis of the rates with other information referring to bank management and information on the economic circumstances of the bank's activity will surely show a realistic image of its activity. In this sense, we have to perform an analysis of the variations recorded by the respective rates during a period of time in order to be able to determine the changes that might come up in the functioning of the bank and the possible impact that these rates could cause on the financial-banking standing.

In the case in which the value of a bank indicator is significantly different from the average for the banking sector, it is necessary to analyze the causes that produced the respective situation in order to thus evaluate the effects caused by these over the financial standing of the analyzed credit institution.

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# COMPARING STOCHASTIC DOMINANCE AND MEAN-VARIANCE APPROACH IN DECISION MAKING UNDER UNCERTAINTY

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## ABSTRACT

*In many decisions, the outcomes of the alternative courses of action cannot be predicted with certainty because of probability distributions of decision outcomes are unknown. This case is an undesirable but often unavoidable situation. In decision theory, there is no a single best criterion for selecting an alternative under conditions of under uncertainty. Instead, there are various different criteria and each has its benefits and limitations. The choice of decision makers among these criteria is generally determined by the attitudes of decision makers toward risk. Stochastic dominance and mean-variance approaches are frequently used for modelling the choice among uncertain outcomes. Stochastic dominance is based on the axiomatic model of risk-averse preferences. In classical utility theory, it is related to the concept of maximisation of continuous, non-decreasing and concave utility functions that describe rational and risk-averse decision makers and it leads to conclusions which are consistent with the axioms of utility theory. On the other hand, stochastic dominance approach is much more complicated and it is difficult to treat to geometrically. The mean-variance approach represents the distribution of the uncertain outcomes by two summary statistics: the mean, representing the expected outcome and the variance, representing the variability. The mean-variance approach allows to decision makers a simple trade-off analysis, analytical or geometrical. But it may lead unwarranted conclusions because of the use of variance as a risk measure which simplifies the analysis. In this paper, it is compared the general conditions for choice under uncertainty between stochastic dominance and the mean-variance approach.*

***Keywords:*** *Stochastic Dominance, Mean-Variance Analysis, Decisions under Uncertainty, Utility Theory.*

## 1. INTRODUCTION

Comparing uncertain outcomes is one of fundamental interests of the decision theory. Uncertainty is undesirable by decision makers but it is unavoidable situation. In economical or managerial decisions, outcomes can be evaluated only from the perspective of future outcomes. When the decision makers do their choices between uncertain outcomes, there is no single best criterion for these choices. Each criterion has its limitations and advantages. Two methods are frequently used for comparing uncertain outcomes are the mean-variance and stochastic dominance approaches. The former represents the distribution of the uncertain outcomes by two statistics which are the mean, representing the expected outcome and the variance, representing the variability. The mean-variance approach is attractive to decision makers and the using of two statistics simplifies the analysis, geometrical and analytical. On the other hand, mean-variance approach is not capable of modelling the entire risk-averse preferences. Stochastic dominance approach is related to risk-averse preferences in classical utility theory and it leads to conclusions which are consistent with the axioms of the utility theory. Unfortunately, it is much more complicated and is difficult to treat geometrically. The aim of this paper is to compare two approaches in perspective of utility theory.

### 1.1 Utility theory

The behavioral assumptions of the decision makers form the expected utility. In utility theory, Von Neumann and Morgenstern proved that if a person's preferences satisfy all the utility axioms, he or she should choose among a series of lottery by using the expected utility criterion. In briefly, the axioms of expected utility are:

- *Ordering and transitivity.* A decision maker can order any two alternatives. At the same time, the ordering is transitive.

- *Continuity*. A decision maker is indifferent between a outcome *A* and some uncertain event involving only two basic outcomes $A_1$ and $A_2$, where $A_1 \succ A \succ A_2$.

- *Unequal probability.* Given two reference lotteries with the same possible outcomes, a decision maker prefers the one with the higher probability of winning the preferred outcome.

- *Reduction of compound uncertain events.* A decision maker is indifferent between a compound uncertain event and a simple uncertain event as determined by reduction using standard probability manipulations.

- *Substitutability.* The decision maker is indifferent between any original uncertain event that involves *A* and one formed by substituting for *A* an uncertain event that is judged to be its equivalent.

If the decision maker accepts these axioms which are reasonable under almost all circumstances, it is possible for the decision maker to find a utility function to evaluate the outcomes, and the decision maker should make decisions in a way that is consistent with maximizing expected utility. While the increasing monotonicity of the utility function displays about the greediness of the decision maker, its curvature tells something about his/her attitude toward risk. An expected utility maximizer is risk neutral, risk-averse or risk seeking, if his/her utility function linear, concave or convex respectively.

## 2. LITERATURE REVIEW

The mean variance and the stochastic dominance approaches are frequently used for comparing uncertain outcomes. The mean variance approach is based on Tobin (1958), Markowitz (1959) and Sharpe (1963) is commonly used in portfolio selection, but there have been many criticisms of this criterion. The mean variance approach can be considered as a special case of the expected utility function if it is restricted the decision makers' preferences to be represented by a quadratic utility function. The mean variance approach is applicable when the decision makers maximize their expected utility and either the decision makers' utility function is quadratic or the probability distribution of returns is normal (Feldstein, 1969). Under the normality assumption, decision makers expected utilities are defined only the first two moment of the distribution since higher moments are irrelevant for the normal distribution. It is concluded that quadratic utility function is not consistent with observed behavior and implies increasing absolute risk aversion (Arrow,1971). On the other hand, it is found that return series are well approximated by the lognormal distribution and concluded that frequency of positive skewness of returns series persists over time.

Stochastic dominance approach accommodates skewness and other data irregularities as well as allowing more general assumptions concerning the utility function of the decision maker. The application of stochastic dominance approach in decision theory began about 50 years ago. Stochastic dominance is based on an axiomatic model of risk-averse preferences in utility theory (Fishburn, 1964).Stochastic dominance approach is generalization of majorization theory for the discrete case in statistics; it is later extended to general distributions. However, the using of majorization analysis in statistics is quite remote from the applications of stochastic dominance in economics and finance. In the stochastic dominance approach, random returns are compared by a point-wise comparison of some performance functions constructed from their distribution functions (Dentcheva and Ruszczynksi, 2003). Theoretical and empirical extensions of stochastic dominance theory were developed after 1969-70. An extensive literature on stochastic dominance theory is presented in Levy (1992).

## 3. STOCHASTIC DOMINANCE

Stochastic dominance approach allows the decision maker to judge a preference or random variable as more risky than another for an entire class of utility functions. Stochastic dominance is based on an axiomatic model of risk-averse preferences in utility theory (Fishburn, 1964). The decision maker has a preference ordering over all possible outcomes, represented by utility function of von-Neumann and Morgenstern. Two axioms of utility function are emphasized: the Monotonicity axiom which means more is better than less and the concavity axiom which means risk aversion.

In decision theory, if there is full information on decision makers' preferences, it is simple to calculate of all the competing outcomes and it can be chosen the one with the highest expected utility. In such case, the decision makers arrive at a complete ordering of the outcomes under consideration: there will be one outcome which is better than (or equal to) all of the other available outcomes. Generally, however, there has been only partial information on preferences (e.g., risk aversion) and, therefore, it is arrived only at a partial ordering of the available outcomes. Stochastic dominance rules as well as other decision rules (e.g., the mean-variance rule) employ partial information on the decision maker's preferences or the random variables and, therefore, they produce only partial ordering (Levy, 1998). This is possible when a choice between preferences can be made using their distribution functions and one distribution stochastically dominates the other. In general, there are two types' rankings, known as first and second order stochastic dominance. First order stochastic dominance is a "stochastically larger" and second order stochastic dominance is a "stochastically less volatile" or "less risky" relationship. In first order stochastic dominance rule, decision maker who desires higher realizations, prefer "larger" random variable and in the second order stochastic dominance rule, "the less volatile" random variable is preferred by all decision makers who also dislike risk. In this point of view, stochastic dominance rule theory provides general rules which have common properties of utility functions. Suppose that *X* and *Y* are two random variables with distribution functions $F_x$ and $G_y$, respectively.

### 3.1 First Order Stochastic Dominance Rules (FSD)

Random variable *X* first order stochastically dominates (FSD) the random variable *Y* if and only if $F_x \leq G_y$. No matter what level of probability is considered, *G* always has a greater probability mass in the lower tail than does *F*. The random variable X first order stochastically dominates the random variable Y if for every monotone (increasing) function $u: R \rightarrow R$, then $E[u(X)] \geq E[u(Y)]$ is obtained. This is already shows that FSD can be viewed as a "stochastically larger" relationship.

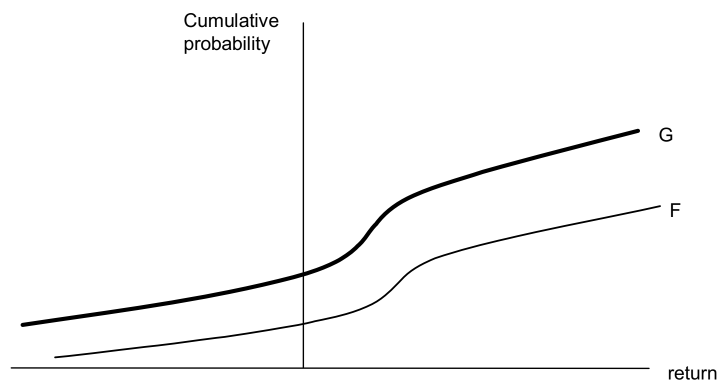


**FIGURE 1. FIRST ORDER STOCHASTIC DOMINANCE**

### 3.2 Second Order Stochastic Dominance (SSD)

The random variable *X* second order stochastically dominates the random variable *Y* if and only if

$$\int_{-\infty}^{k} F(t)dt \leq \int_{-\infty}^{k} G(t)dt \quad \text{for all } k.$$

$X$ is preferred to $Y$ by all risk-averse decision makers if the cumulative differences of returns over all states of nature favor $F_x$. The random variable $X$ second order stochastically dominates the random variable $Y$ if for all monotone (increasing) and concave functions $u: R \rightarrow R$, that is; utility functions increasing at a decreasing rate with wealth: $u' \geq 0, u'' \leq 0$, then $E[u(X)] \geq E[u(Y)]$ is obtained.

Geometrically, up to every point $k$, the area under $F$ is smaller than the corresponding areas under **G**.

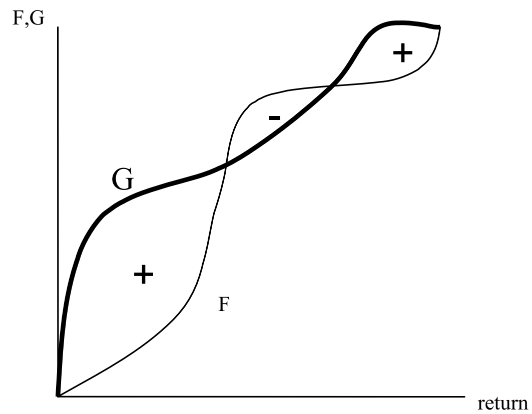


**FIGURE 2. SECOND ORDER STOCHASTIC DOMINANCE-NOT FSD**

Criteria have been developed for third degree stochastic dominance (TSD) by Whitmore (1970), and for mixtures of risky and riskless assets by Levy and Kroll (1976). However, the SSD criterion is considered the most important in portfolio selection.

## 4. ADVANTAGES OF STOCHASTIC DOMINANCE APPROACH TO MEAN-VARIANCE ANALYSIS

The assumptions based on mean-variance rule preferences, the decision makers preferences depend just on mean and variance payoffs. Though in decisison making under uncertainty, preferences of the decision makers are not always defined over absolute payoffs. Individual preferences of the decision makers are generally motivated by relative changes on payoffs. Therefore, mean-variance rules are not consistent with axioms of rational choice.

Markowitz's mean-variance rule is most commonly employed in the choice among risky prospects. According to this rule, the random variable $X$ will be preferred over the random variable $Y$, if $E(X) \geq E(Y)$ and $\sigma_X^2 \leq \sigma_Y^2$ and there is at least one strict equality. However, with empirical data $E(X) > E(Y)$ and $\sigma_X^2 > \sigma_Y^2$ inequalities are common. In such cases, the mean-variance rule will be unable to distinguish between the random variables $X$ and $Y$.

Another disadvantage of mean-variance rule is that under the assumption of decisin maker's quadratic utility function, quadratic utility function implies that beyond some wealth level the decision maker's marginal utility becomes negative.

When considering the risk, variance which is the risk measure of mean-variance rule, is not always appropiate risk measure, because of left sided fat tails in return distributions.

Stochastic dominance approach is useful both for normative analysis, where the objective is to support practical decision making process, as well as positive analysis, where the objective is to analyze the decision rules used by decision makers.

Stochastic dominance approach uses entire probability distribution rather than two moments, so it can be considered less restrictive than the mean-variance approach.

In stochastic dominance approach, there are no assumptions made concerning the form of the return distributions. If it is fully specified one of the most frequently used continuous distribution like normal distribution, the stochastic dominance approach tends to reduce to a simpler form (e.g., mean-variance rule) so that full-scale comparisons of empirical distributions are not needed. Also, not much information on decision makers' preferences is needed to rank alternatives.

From a bayesian perspective, when the true distirbutions of returns are unknown, the use of an empirical distribution function is justified by the von-Neumann and Morgenstern axioms.

Stochastic dominance approach is consistent with a wide range of economic theories of choice under uncertainty, like expected utility theory, non-expected utility theory of Yaari's, dual theory of risk, cumulative prospect theory and regret theory. However, mean variance analysis is consistent with the expected utility theory under relatively restrictive assumptions about investor preferences and/or the statistical distribution of the investments returns.

## 5. CONCLUSION

In this paper, stochastic dominance and mean-variance approachs are compared in decision making under uncertainty. Stochastic dominance approach is not substituted for the mean variance approach but it can be considered an alternative approach in decision making process. In portfolio optimization to apply stochastic dominance, some assumptions are needed regarding the distribution of returns while in agriculture, statistics, medicine, some applications in economics and finance there is no need any assumptions for application of stochastic dominance approach. Therefore, stochastic dominance approach will be optimal on these applications areas.

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# GAME THEORY – ITS ROLE IN THE EVOLUTION OF ECONOMIC THINKING

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**ABSTRACT**

*In this paper we try to describe the role of Game Theory in the evolution of economic thinking. Therefore starting with the three main sine qua non conditions for the analysis of Game Theory, rationality, individualism and interdependence, we draw some conclusions upon the main common and different aspects between Game Theory and Classical and Neo-Classical Theories, Decision Theory respectively.*

## 1. INTRODUCTION

Life is a game. Game Theory is the analysis of the everyday situations where two or more rational individuals become independent through the interaction between them.

Game Theory is the Theory of Interdependent Decisions since it starts from Decisions Theory (Nondependent) to which there are added independence, inter-influence of the decagon makers. Thus, if Decisions Theory analyses exclusively a single decision maker, setting aside any other decision maker with whom this one can inter-influence. Game Theory or Interdependent Decisions Theory needs **at least two decision makers (players)** so that from the interdependence of their decisions, by-univocal, reciprocal relations should be born, relations called GAME.

Players are rational, individualistic decision makers, aware that their own decisions influence and are influenced by the other players' decisions and who wish that the result of the decisions they took in a game should represent the maximization of the satisfaction. Satisfaction is materialized in profit, outputs, sales, utility, election success, personal and family fulfillment etc, according to the player's status: manufacturers, consumers, politicians, life partners etc.

Thus, the portrait of every player implies three essential features: **rationality**, **individualism** and **interdependence**. These three features represent also the three suppositions from which starts any study of Game Theory.

## 2. METHOD AND RESULTS

### 2.1. Players' rationality

Rationality becomes one of the connections between classical economic conception and the neo-classical one on one hand, and Game Theory on the other.

In his work *"Theory of Moral Sentiments"*, Adam Smith creates the prototype of the liberal economic agent "Homo Oeconomicus" by combining together five essential features, as follows (see Popescu, 2002):

**He is perfectly rational.** This innate feature of the human is reflected, according to Smith, in his continuous attempt to maximize his earnings by minimizing losses.

**He is perfectly selfish.** This means that the liberal economic agent has as sole aim to pursue his own interest. However, ethically speaking, he is led by altruism.

**He is perfectly free.** He is free in economy and not a slave of his own interest and to the limits imposed by not affecting the freedom of action of other individuals. His freedom of action is based upon the "inviolability of private property".

**He is perfectly competitive.** This economic agent acts continuously in a perfect competitive regime.
**He is perfectly social.** Homo Oeconomicus is a Zoon Politikon who, for reaching his own interest, needs to act in a system of interdependence and work division relations.

The neoclassics didn't dispute Homo Oeconomicus, but improved it, by adding to the rationality side the irrationality one, respectively, by adding selflessness to selfishness.

Game Theory states the fact that the players are rational, basing upon a threefold perspective:

1) players preferences referring to each of the possible results can be quantitatively represented by a utility function of the type Neumann-Morgenstern;
2) between two or more possibilities that lead to different results, the players will choose the one that will bring them the preferred result; in other words, in the terms if an utility function, the aim of the action is of maximizing the expected utility;
3) players know the function of the utility and the objectives of all the participants to the game, and their choice is based on a permanent calculation of determining other possibilities that provide the maximization of their gain.

The behavior of every rational decision maker can be described both by a *utility function* that offers a quantitative interpretation of his preferences, and by a *subjective probability distribution* that translated into quantitative terms all the relevant unknown factors(see Myerson, 2002). Thus, the objective and certain part of the decisions of a decision maker is analyzed through a utility function, and the subjective, risk part of the same decisions is analyzed by probability distributions.

We will further look into the Neumann-Morgenstern utility function.

A Neumann-Morgenstern utility function has the form $u : X \to R$ where X = the group of results and R = the group of real numbers. Function u expresses the preferences of the players over the simple and compound lottery or, in other words, function u induces a morphism between the preferences group in circumstances of uncertainty and the real numbers' group. Thus, the player will prefer lottery $L_2$ to lottery $L_1$ ⇔ the expected utility $L_2$ is bigger than the expected utility of lottery $L_1$.

In terms of discreet choice, if $L : X \to [0,1]$ is a simple lottery so that $L(x_i) = p_i$, where $p_i$ represents probability as $x_i$ is a winning one.

A Neumann-Morgenstern utility function exists if and only if the preference relationship on the space of simple lotteries fulfills 4 axioms:

**Axiom 1 (completeness)**: $\forall$ $x_1$, $x_2 \in X$ one and only one of the following statements can be true:

1) $L(x_1) \le L(x_2)$;
2) $L(x_1) \ge L(x_2)$;
3) $L(x_1) \equiv L(x_2)$.

**Axiom 2 (transitivity):** $\forall$ $x_1$, $x_2$, $x_3 \in X$, if $L(x_1) \le L(x_2)$ and $L(x_2) \le L(x_3)$, then also $L(x_1) \le L(x_3)$.

**Axiom 3 (Archimedean or convex or continuous):** For $x_1$, $x_2$ , $x_3 \in X$ with property $L(x_1) \le L(x_2) \le L(x_3)$, $0 \le p \le 1$ so that the player is indifferent between lottery $L(x_2)$ and the lottery composed mixed between $L(x_1)$ and $L(x_3)$ with the probabilities $p$ and 1 − *p*.

**Axiom 4 (independence):** Independence suggests the fact that is the player is indifferent between two simple lotteries $L(x_1)$ and $L(x_2)$, the player is also indifferent between the lottery $L(x_1)$ mingled with an arbitrary simple lottery $L(x_3)$ with the probability *p* and lottery $L(x_2)$ mingled with simple arbitrary lottery $L(x_3)$ with the same probability 1 - *p*. (Independence is one of the most disputed axioms since there exist several general theories of expected utility that renounce at or relax this axiom).

**2.2. Players individualism**

Individualism is the social doctrine or ideology that conveys a greater moral value to the individual than to community or society and which claims that individuals should be left to act freely for pursuing and fulfilling in the best way possible their own interest (see Eatwell, Milgate and Newman, 1987).

Individualism stands at the basis of the most conceptual constructions of economic theories. In the 18th century, Adam Smith said that the selfish and „disordered” actions of infinity of homo oeconomicus are meant to lead to the obtaining of the best social result possible due to an invisible hand that maintains continuously, and beyond the individual interest or conscience, natural order (see Popescu, 2002). In the 19th century, Betham restored Hobbes' doctrine of atomic individualism. At the middle of the 19th century (1859), in his elaborated *„On Liberty”*, John Stuart Mill creates the concept of *„development individualism”* which translated by the fundamental significance given to the human development in its richest diversity (see Eatwell, Milgate and Newman, 1987). Karl Marx saw the collective control over economy as a means of ending a conjuncture dominated by ultra-individualism that means an exponential growth of individualism happening in capitalism. The 20th century brings with the liberal doctrine two antithetic positions: one of the development individualism through Berlin and Rawls and the other through the possessive individualism through Hayek and Friedman. The neoclassics will contribute to the classical homo oeconomicus by adding the altruist side to the egoist one.

In Game Theory, individualism traces the border line between the non-cooperating games and the cooperating games. In the non-cooperating games, the players cannot engage in obligatory agreements which hold the parts for their execution or which have the law power between the parts, thus being truly individualistic, while in the cooperating games such agreements are possible. However, the non-cooperating games can collaborate. But how can an individualist cooperate? Here, the scholars admitted the fact that any player, individualist by nature, cooperates as long as his rationality tells him that this (the cooperation) brings him a profit on an individual scale or, in other words, for as long as this doesn't affect his personal gain.

**2.3. Players interdependence**

Interdependence tells us that the results of a player depend not only on its own actions, but also on the way in which he estimates the actions of those with whom he interacts.

Interdependence, as a condition *sine qua non* of Game Theory, is turned account by Avinash Dixit and Barry Nalebuff by an example described in the volume *„Thinking Strategically: The Competitive Edge in Business, Politics, and Everyday Life”*: *„...think of the difference between the decisions of a lumberjack and those of a general. When the lumberjack decides how to chop wood, he does not expect the wood to fight back; his environment is neutral. But when the general tries to cut down the enemy's army, he must anticipate and overcome resistance to his plans. Like the general, you must recognize that your business rivals, prospective spouse, and even your child are intelligent and purposive people. Their aims often conflict with yours, but they also include some potential allies. Your own choice must allow for the conflict, and utilize the cooperation. Such interactive decisions are called strategic, and the plan of action appropriate to them is called a strategy.”* (Dixit and Nalebuff, 1991). From this argument, there result two definitions: of interdependence and of strategy.

Dixit and Nalebuff present a parallel between the decisions made in a *neutral environment* and the decisions taken in an *interactive environment*. If the decisions in a neutral environment are simple decisions after which a positive or negative finality is expected, an interactive environment confers a strategic nature to the decisions and transforms finality in a multi-vocal relationship. Between us our business opponents, our life partner or our children, there is created an interactive environment that forces us, just like the general, to think and build strategic decisions of conflict and cooperation so that finality should be one of the best ones as far as personal interest is concerned. From here results the *rationality, individualism* and *interdependence* of the game participant, be it an armed, economic or an every day life one.

Unlike rationality and individualism that are common to classical and neo-classical economic theories and to Game Theory, interdependence, a basic condition in Game Theory cannot be too often found in the

first two cases. For example, in General Equilibrium Theory, all the agents are supposed to be found in the atomicity relationship, that is, they are so many that by their actions cannot influence the others' results, neither the market result. Here, competitive equilibrium is Pareto efficient, in the sense that it the improvement of the result of no economic agent can be accomplished without worsening the result of other/others agent/agents. With the introduction of interdependence, there emerges the possibility of a market failure and of a Pareto inefficiency situation, a case in which at least one agent can improve his results this doesn't have a negative impact on somebody else's result (Romp, 1997).
Even from the beginning of its establishing as science in 1944, it was proven that the most important consumer of strategic games ideas was to be the economic field and this for at leas two reasons. First, the scarcity of economic resources, the hypothesis of rationality of the economic actors and the conditions of interdependence from the most competition situations, represented the necessary and sufficient ingredients for certain game situations. Secondly, the authors of *„Game Theory and Economic Behavior"*, Neumann and Morgenstern by this title itself declared from the beginning their intention referring to the addressee domain of the knowledge comprised by this volume.

## 3. CONCLUSIONS

Why a strategic Game Theory and what did it bring new to the perspective of the economic thinking evolution?

Classical and neo-classical economic theories were thought for describing the behavior and the result of a rational decision maker in a neutral and insecure environment and hence the mathematic formalization of this behavior, borrowed from the rationalists, was based upon distributions of fixed probabilities to which were associated calculations of the probabilities. These do not take into account the hypothesis that the decision maker can meet an intelligent opponent with whom he may interrelate. In other words, classical and neoclassical Game Theories concern and analyze the economic agent as a „the woodchopper" from the example Dixit-Nalebuff (see the subchapter 2.3) who doesn't expect (doesn't predict, doesn't anticipate and doesn't take into consideration) when he chops wood that it should strike back. But, the issue of an economic agent that activates in an exchange economy is actually the general's issue – from the same example- who has to defeat the enemy's army. Similar to the *confrontation* that makes the general unable to think the result of the combat only in the restrictive terms of own strategies, but to take into account also the potential strategies of the enemy, the *exchange*, thus the *interaction* from the economic agent and the other participants in the exchange make the first one unable to control and, eventually, determine the result of his actions only considering his own market policies, but taking into account also the potential actions of all those with whom he engages in exchange relations. This happens because in real life and in any market where interact at least two economic agents, the confrontation between them forms a *dynamic system* that cannot be understood and analyzed using the tools of classic and neoclassic Economic Doctrines.

We will now bring forward on the scene of our research conclusions, Daniel Defoe's character, Robinson Crusoe, to whom we will request to play, on turns, the role of classic/neoclassic economic prototype and, respectively, the role of a prototype-player. The classic and neoclassic doctrines provide an image and an analysis of a rational, individualist Robinson Crusoe, but settled in a environment lacking any inter-relation with Robinson, in a neutral environment that, irrespective of its static or dynamic nature, doesn't exert any influence over the decisions made by our hero. His decision to build a channel from the sea to the place where he uses water, or of carrying water from the sea in a bowl every day until the desired place, doesn't depend on any external action, but only the priority he ascribes to the potential consequences of these two plans, that is the order in which he prefers these consequences, thus: several tiring and waterless days but the rest of a life with water obtained effortlessly or, respectively, water obtained daily but with a constant and continuous effort for all his life. Game Theory brings about a second actor besides Robinson, and that is the human being Friday. From now on Robinson cannot remain a single, individualist and neutral, rational actor, but he will change himself into a strategic being and will transform his own decisions into strategic calculations that will include Friday's options. The results of the decisions will have an interactive characters since each of the two heroes depends on the other and, again, because each of them knows this. The story of Robinson Crusoe in its two variants (with or without Friday) is the story of the two categories of economic doctrines: classical and neoclassical on the one hand and strategic Games Doctrine, on the other.

Thus Game Theory adjusts economic classicism's and neoclassicism's inconsequence by moving the center point of the economic result from the sphere of individual seen isolated in that of the individuals seen in their interaction.

There appears the question if in the terms of economic classical and neoclassical Theory the decision maker doesn't take into account the emergence of any possible (intelligent) opponent, is this theoretical construction based on a false hypothesis of individuals rationality? Not in the least, and this because rationality -we cleared in subchapter 1- consists of the calculation made by a decision maker for maximizing his satisfaction, and the classical decision maker is on a permanent quest for finding the way in which he can maximize his gain starting from his ownership right, from money, from competition conditions etc.

Pascal said that a decision maker can maximize his result by combining the data related to events and random values. Neumann and Morgenstern show that a decision maker can maximize his own result if he takes into account the fact that the other opponents try to maximize their own results.
The fundamental difference between the classical and neoclassical economic Theory and Game Theory can be highlighted when trying to build the Prisoner's Dilemma in the terms of the first category of economic thinking and then to compare it with the classical Prisoner's Dilemma from Game Theory.

Thus, if in the variant of the classic Prisoner's Dilemma from Game Theory he is offered **four options:**

1. If you confess and the other confesses, each of you gets a 10 years conviction;
2. If you confess and the other doesn't confess, you will be set free, while your partner gets a 20 years conviction;
3. If you don't confess and the other confesses, you will spend your following 20 years in prison, while he will be free;
4. If you don't confess and neither he, you will both get only 3 years of prison due to the poor evidence held by the police.

In the variant of the classical and neo-classical economic Theory, to a so called player would have only **two options** since his environment is neutral and the action of a participant to the so-called game is not taken into account, as follows:

1. If you confess, you get a number of ... years of prison;
2. If you do confess, you get a number of ... years of prison.

For n players, the number of possibilities becomes $2^n$.

By reporting to Decision Theory, where it has its roots, Game Theory thus appears as its extrapolation, since Game Theory expands the analysis from one decision maker – as in the case of Decision Theory– to two or several decision makers considered in their interdependence.

Decision Theory can be considered as a game with two persons where a player is the decision maker and the other is the nature, that pseudo-player or non-player who makes decisions through a random mechanism which determines „the condition of nature" (In certain cases, besides the actual players, there are also the so called **pseudo-players** or **non-players** whose behavior cannot be considered no-rational and cannot be deducted from the maximization of an utility function and, consequently, their influences are taken into account only in a purely mechanical sense. Nature is such a non-player or a pseudo-player or whom we cannot say that it has an aim, but whose behavior unmasks a certain frequency. **Nature** is a **non-player** or a **pseudo-player** whose behavior can be described by a distribution of probability). The satisfaction or the utility of the first player is given both by his decisions and the „condition of nature". Nevertheless, between the Decision Theory and Game Theory there is a significant difference. If in a pure decisional issue, the uncertainty refers only to the movements of „nature", that is the random movements, and the decision maker forms exogenous opinions referring to the probabilities of these random movements, in the game situation where each participant makes decisions, the expectancies of the players referring to the decisions of the opponents are endogenous, in this case dealing with a *„strategic* *uncertainty"* (see Montet and Serra, 2003). The complexity of Game Theory consists precisely of the fact that the results of the player's actions depend on the other players' action, which are unknown to the former and which have to be predicted. *„Strategic uncertainty"* which supposes that each player should take into consideration not only the structure of the game but also the others' behavior, creates the basis of the *„strategic behavior"* of the player. This means that his choices and beliefs reflect the understanding of his environment as a non-cooperating environment with strategic uncertainty and not as a decisional issue (see Monett and Serra, 2003).

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# MODIGLIANI AND MILLER PROPOSITIONS ARE TAUTOLOGY!

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## ABSTRACT

*Modigliani and Miller's 1958 paper is probably the first and the foremost classic paper in finance theory. Under the assumptions of perfect markets, absence of tax effects and absence of growth they proposed that market value or average cost of capital to any firm is independent of its capital structure (debt-equity mix). They followed up with two more propositions. During these past 58 years their theory and its subsequent correction in 1963 were criticized, supported, commented, and modified by a number of researchers. This paper is not about any of these but to show that MM's three propositions are not mutually exclusive. We contend that Proposition II and Proposition III are mere restatement and therefore are needless repetition of Proposition I, i.e. tautology. At the best, others two propositions are implications of the theory they stated in their Proposition I, not separate theories as is often referred to in the literature. In spite of this glitch, MM's paper started an era of revolutionary developments in finance theory and an era of interfacing the two disciplines of finance and economics, popularly known as financial economics.*

***Keywords:*** *Cost of capital, Capital structure, Modigliani and Miller Propositions*

## 1. INTRODUCTION

In their 1958 paper in *American Economic Review* professors Modigliani and Miller (MM) ushered in a revolution in finance theory. They theorized that in perfect markets and in the absence of tax benefits value of firm or its average cost of capital is unaffected by capital structure (i.e. debt–equity mix). In the following year Durand (1959) commented and MM (1959) replied in the same journal. Countless research papers have since been written and published in academic journals critiquing MM's theories. Empirical support to MM's propositions however has been less than satisfactory. Almost every textbook in finance covers MM propositions in chapter on capital structure, but none of the authors, to the best of our knowledge, explicitly questioned the irrelevance and redundancy of MM propositions much less dwelled upon it. These propositions, at best are tautology! Webster's dictionary (1976) defines tautology as: "needless repetition of an idea in a different word; phrase or sentence; redundancy." Thus MM's three propositions are no different from each other. The purpose of this brief note is neither to critique the MM's theory nor do we intend to question their extensive set of simplifying but highly unrealistic assumptions. Our goal is to show that their propositions or theories in their original 1958 article and their extension (or correction) in their subsequent 1963 article are exactly the same relationship and therefore has no value-added contribution.

The paper is organized as follows: After a very brief literature review, MM's first two propositions are stated in words as well as in algebraic forms. Next we discuss how MM's propositions are merely a tautology. Paper ends with concluding remarks.

## 2. LIREATURE REVIEW

In the year following MM's (1958) classic paper, Durand (1959) made extensive critical comments on MM's theory. He mainly "analyzed MM's underlying assumptions, which [he thought are] are subtle and restrictive." To which MM (1959) replied by stating, "We feel however that he [Durand] has not been conspicuously successful on either front, largely because he has focused on the apparent limitations of the perfect market model instead of trying to surmount these limitations by extending our basic approach." However, MM in their second paper in 1963 issued a correction in their original paper by stating that "the tax advantages of debt financing are somewhat greater than we originally suggested…" In 1969 other classic papers by Hamada (1969) and Stiglitz (1969) boosted MM's position. Hamada (1969) derived MM propositions using mean-variance portfolio model and largely supported MM, He stated "… their propositions are shown to hold in the portfolio model under market equilibrium conditions…" Hamada (1969) went a step further; he relieved MM from need for over restrictive assumptions of homogeneous risk class and arbitrage. Stiglitz (1969) examined restrictive assumptions underlying MM's theory and showed that "…the MM theorem holds under much more general conditions than those assumed in their original study. The validity of the theorem does not depend on the existence of risk classes, on the competitiveness of capital markets, or on the agreement of individuals about the probability distribution of outcomes," Stiglitz (1969) also went a step further to "show the MM results may still be valid even if there are limitation of individual borrowing." There is an abundant of literature relating MM's work. Thirty years later three articles from Durand (1989), Gordon (1989) and Weston (1989) appeared in summer 1989 issue of *Financial Management* as "Reflections on the MM Propositions: Thirty Years Later". Both Durand and Gordon continued to be critical of MM's theory and perfect market assumption. Weston (1989) however saw in MM's work a stimulant for a stream of theoretical and empirical literature. He stated that "departures from the MM propositions are driven by imperfections, not by error in the logical structure of their model." Thus enough has been said and done theoretically as well as empirically to examine MM's propositions. To the best of our knowledge, only Hamada (1969) and Weston (1989) made a casual reference to mutual derivability of the Propositions.

## 3. MM's PROPOSITIONS

### 3.1 Proposition I

MM stated their proposition I as "the market value of any firm is independent of its capital structure and is given by capitalizing its expected return…" They restated this proposition as "the average cost of capital of any firm is completely independent of its capital structure and is equal to the capitalization rate of a pure equity stream of its class." They provided an elegant arbitrage mechanism in support of this proposition.

Mathematically, MM proposition I can be written as follows:

(1) $k = i\,(E/V) + r\,(D/V)$; where $V = E+D$

Where k is average cost of capital, i = expected rate of return or yield on the stock, r = rate of return on debt (perpetual bond), E = market value of common shares, D = market value of the debts and, V = E+D = market value of firm.

### 3.2 Proposition II

MM stated proposition II as "the expected yield of a share of stock is equal to the appropriate capitalization rate k for a pure equity stream in the class plus a premium related to financial risk equal to the debt-to-equity ratio times the spread between k and r."

Mathematically, MM's Proposition II can be written as:

(2) $i = k + (k-r)\,(D/E)$

MM contended that "a number of writers have stated close equivalent of our Proposition I although by appealing to intuition rather than by attempting a proof…. Proposition II, however, so far as we have been able to discover is new."

## 4. TAUTOLOGY!

MM's Proposition I and their arbitrage proof, in spite of overly simplifying assumptions, are highly acclaimed contribution. However, their claim that "Proposition II is a new discovery" is an over statement. As a matter of fact the two propositions are exactly the same relationship, except for algebraic manipulation. The second proposition is an unnecessary repetition of the first which in dictionary term is a tautology!

Ross et al (2002; 412) has shown a step-by-step derivation of equation (2) from equation (1) and so has a multiplicity of other textbook authors and researchers. Although a few writers made a passing reference to this derivability but hardly any, to the best of our knowledge, directly questioned the redundancy of MM propositions and then elaborated on it. For example Hamada (1969; 19) wrote in a footnote," …. [MM's Proposition II] is merely a matter of arithmetic manipulation." Likewise, Weston (1989; 30) stated that "… the latter two [MM] propositions flow from the first."

In scientific inquiries, researchers construct models as an abstraction of a real system. They make simplifying assumptions, formulate a theory, provide a logical proof, and hope that observed data support their theory. Criticizing a theory by questioning underlying assumptions is not fair. It is also not appropriate to imply two propositions from one algebraic formula.

For a partial or a complete list of MM assumptions please refer to MM (1958), Stiglitz (1969), Gordon (1989, or Weston (1989) or any textbook in finance. Hamada (1969) and Stiglitz (1969) showed that many restrictive assumptions by MM were unnecessary. Durand (1959) however lashed out against MM theory because it disregarded growth and assumed perfect market. To this MM (1959) came out with a strongly worded reply:

> "He [Durand] has probed carefully to find inadequacies in our treatment of perfect market and he has endeavored to explore the implications of certain market imperfections for the usefulness of our approach. We feel however that he has not been conspicuously successful on either front. Largely, because he has focused on the apparent limitations of the perfect market model instead of trying to surmount these limitations by extending our basic approach." (p, 404)

Thirty years later Weston (1989; 30) summarized the literature subsequent to MM (1958) study. In exhibit I of his paper Weston listed twelve follow up studies which successively relaxed the assumptions of the original MM (1958) paper. Some of the noteworthy names associated with these studies are: Brennan, DeAngelo, Dybvig, Fama, Jensen, Majluf, Masulis, Meckling, Miller, Modigliani, Myers, Ross and Zender. Indeed there are many more contributors since 1989 to this date.

Since MM Proposition I and MM Proposition II are exactly reproducible from each other, these are not two theories. As a matter of fact mathematical expression of proposition I in equation (1) above has five variables: k, i, r, E and D and therefore can be rewritten in five explicit forms. The other three forms are:

(3) $r = k – (i-k) (E/D)$

(4) $D = E (k-i) / (r-k)$ or $D/E = (k-i) / (r-k)$

(5) $E = D (r-k) / (k-i)$ or $E/D = (r-k) / (k-i)$

If we follow MM's logic, there are three more possible propositions, in addition to their first two! For example:

"Proposition III, could be stated as " Given the average cost of capital (k) and expected rate of return on the stock (i), the rate of return or cost of debt (r) is also a linear but decreasing function of equality-to-debt ratio (E/D), which by the way is reciprocal of debt-to-equity ratio. The marginal decrease in r is equal to (i-k). Note that $dr/d(E/D) = - (i-k)$

Example: Let's assume K = .12, i = .16 and E/D = 2 then r = .12 – (.16-.12) (2) = .04

Thus if we replace MM's assumption of fixed cost perpetual debt (bond) with required rate of return (or yield) on the stock, cost of borrowing (bonds) would decrease to the rate given by equation (3), ceteris paribus. MM's arbitrage mechanism, we believe, should be helpful in validating "Proposition III."

"Proposition IV" can be stated as "If a firm starts with a pre-determined set of values of k, i, and r (say .12, .16, .06 respectively) it should strive for a debt-to-equity ratio given by equation (4) which is (.12-.16) / (.06 - .12) = .04/.06 = 2/3.

"Proposition V" is very similar to "Proposition IV." It refers to equity-to-debt ratio of 3/2 as a target.

So what MM have wrought? In a layman's language they took a simple formula of weighted average of two variables (r and i), claimed that the average is constant irrespective of the weights (Proposition I) and rewrote the same formula and called it (Proposition II).

MM's original paper also had Proposition III which states that "the cut-off point for investment in the firm will in all cases be k (the average cost of capital) and will be completely unaffected by the type of security used to finance the investment." In the light of Proposition I, the Proposition III is redundant because it is pure commonsense that if the cost of money to a firm is k, they must invest this money to earn a rate of return greater than k.

### 4.1 Taxes and Correction of MM Propositions

MM in their 1963 paper issued correction to their original 1958 paper. They admitted that “the tax advantages of debt financing are somewhat greater than we originally suggested and to this extent, the quantitative difference between the valuation implied by our position and by the traditional view is narrowed.” They corrected their Proposition I and II, which can be written as follows:

(6) $k = i\,(E/V) + r\,(1-t)\,(D/V)$; where t is a firm’s marginal tax rate and V=E+D.

(7) $i = k + (k-r)\,(1-t)\,(D/E)$

Equation (7) can be derived from equation (6). Equation (7) therefore is fundamentally the same relationship as equation (6). At the best it can be interpreted as an implication of revised Proposition I but not a distinct theory. Note that equation (6) can be restated in at least six different ways.

## 5. CONCLUSION

Modigliani and Miller through their classic 1958 paper published in *American Economic Review* ushered in a revolution in finance theory. They theorized that in perfect markets value or average cost of capital to any firm is independent of its capital structure or simply debt-equity mix (Proposition I). They followed with two more propositions which we contend to be needless repetition of the first, hence a tautology. Countless papers have been published during the past 58 years criticizing or supporting MM’s theory but none to the best of our knowledge, explicitly questioned and discussed the redundancy of these propositions. This paper is a humble effort in that direction. We nevertheless recognize that MM’s paper started an era of revolutionary developments in finance theory and of interfacing the two disciplines of finance and economics, popularly known as financial economics.

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# LIQUOR LAW LIABILITY: ANALYSIS OF STATE DRAM SHOP LAWS

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## ABSTRACT

*Most establishments in the business of selling alcoholic beverages face a potentially catastrophic loss exposure -- called dram shop liability. Dram shop acts, sometimes called civil damage acts, make vendors of alcoholic beverages responsible for injury or property damage caused by intoxicated or underage patrons. Historically, under common law, alcohol vendors were not liable for injuries to intoxicated customers or to others injured by intoxicated customers. Courts held that intoxicated customers were barred from recovering on the grounds of contributory negligence. And, the courts held that vendors were not liable to parties injured by intoxicated customers because the proximate cause of the injuries was the consumption, rather than the furnishing, of alcohol. In the last twenty years courts and legislatures have replaced common law with statutes and decisions designed to discourage drunk driving and to provide a remedy for innocent victims in drunk-driving accidents. The purpose of this research is to analyze the legal environment in each state with respect to the legal liability of vendors of alcoholic beverages for injuries or damages caused by intoxicated customers.*

**Keywords:** Dram Shop; Civil Damage Acts.

## 1. INTRODUCTION

Most establishments in the business of selling alcoholic beverages face a potentially catastrophic loss exposure -- called dram shop liability. Dram shop acts, sometimes called civil damage acts, make vendors of alcoholic beverages responsible for injury or property damage caused by intoxicated or underage patrons. Dram shop acts vary significantly from state to state. The purpose of this research is to analyze the legal environment in each state with respect to the legal liability of vendors of alcoholic beverages for injuries or damages caused by intoxicated customers. The analysis will report on the circumstances that cause establishments to become liable, the types of civil actions prompted by the dram shop acts, and the variation in damages allowed. Insurers, agents and brokers should be aware of the liquor liability acts or court precedents in their own states in order to explain to clients and prospects the severity of the exposure they face.

## 2. LITERATURE REVIEW

Considerable literature exists addressing the civil liability created by dram shop laws. However, most of the literature focuses on the prevention of drinking and driving, responsible beverage service training, public health issues associated with alcohol consumption. For example, several studies focus on alcohol policies and motor vehicle fatalities (Whetten-Goldstein, Sloan, and Liang, 2000) and (Sloan, Reilly, & Schenzler, 1994). Others focus on increasing the penalties for drunk driving as a means of keeping drivers sober (Kim, 1988). Nelson (2005) examined the relationship between state alcohol control practices and binge drinking. Russ and Geller (1987) evaluated the effectiveness of the Training for Intervention Procedures by Servers of Alcohol (TIPS) program, a server training program required by many insurance companies before they will issue policies providing insurance coverage to bars and restaurants that serve alcohol. Holder & Wagenaar, (1994). Analyzed the impact of a state law requiring mandatory server training on single-vehicle, injury producing car crashes. While many authors refer to dram shop laws and the legal liability of alcoholic beverage vendors, they seldom provide details on state dram-shop laws nor provide analysis on the variations in these laws from state to state. The aim of this study is to fill that void by proving a brief history of dram-shop laws and examining the major variations in these laws form state to state.

## 3. HISTORY OF DRAM SHOP ACTS

Fueled by organized efforts to induce people to abstain from the use of alcoholic beverages, many legislatures in the mid-1800s enacted civil damage statutes, often called dram shop acts. Technically, a dram is a unit of apothecary measure equivalent to one-eighth of a fluid ounce (Webster's, 2000). A dram was used in colonial times to refer to a small drink of spirits. According to Black's Law Dictionary, the term "dram shop" referred to an establishment where liquor was sold to be drunk on the premises. These early dram shop statutes generally imposed strict liability upon vendors of alcoholic beverages when the sale resulted in injury to a third person because of the intoxication of the buyer (Moore, 1993).

Wisconsin adopted the first dram shop statute in 1849. This statute required a tavern owner to post a bond for the expenses of civil or criminal actions attributed to alcoholic beverage sales. Following the end of prohibition in 1933, many states repealed their dram shop statutes. Then in the late 1970s, in response to public pressure to deter drunken driving and to compensate innocent victims of drunken driving accidents, states again began enacting dram shop statutes (Lang and McGrath, 1983).

All states have alcoholic beverage control acts designed to regulate the manufacture and sale of alcoholic beverages. These acts are administrative in nature and may impose criminal penalties, but not civil liability on vendors. Today, thirty-seven states also have acts regulating the civil liability of vendors of alcoholic beverages, commonly referred to as dram shop statutes. There is, however, little uniformity among these statutes. Dram shop statutes expose liquor stores, taverns, and restaurants that sell alcoholic beverages to varying degrees of liability and some even impose legal liability upon social hosts. This research includes information about the legal liability of vendors of alcoholic beverages and social hosts for injuries or damages caused by intoxicated customers and social guests under traditional common law, dram shop statutes as well was modern common law.

## 4. LIABILITY OF ALCOHOL VENDORS UNDER TRADITIONAL COMMON LAW

Historically, under common law, alcohol vendors were not liable for injuries to intoxicated customers or to others injured by intoxicated customers. Courts held that intoxicated customers were barred from recovering on the grounds of contributory negligence. And, the courts held that vendors were not liable to parties injured by intoxicated customers because the proximate cause of the injuries was the consumption, rather than the furnishing, of alcohol. In the last twenty years courts and legislatures have replaced common law with statutes and decisions designed to discourage drunk driving and to provide a remedy for innocent victims in drunk-driving accidents.

## 5. LIABILITY UNDER DRAM SHOP STATUTES

At least thirty-seven states now have some form of dram shop statute. These statutes may be categorized as being either broad or narrow in scope (Morgan, 1987). The broad statutes often allow *anyone* injured by an intoxicated patron to bring legal action against the vendor. For example, Alabama's is one of the broadest dram-shop statutes. Alabama Code §§ 6-5-71 specifies that:

> "Every wife, child, parent, or other person who shall be injured in person, property, or means of support by any intoxicated person, or in consequence of the intoxication of any person shall have a right of action against any person who shall, by selling, giving, or otherwise disposing of to another, contrary to the provisions of law, any liquors or beverages, cause the intoxication of such person for all damages actually sustained, as well as exemplary damages."

Narrow statutes, sometimes called anti-dram shop acts, place restrictions on, or limit the alcohol vendor's liability, for the acts of intoxicated customers. Missouri is an example of a narrow liquor liability statute. Missouri statute §§ 537.053 reads in part:

> "Since the repeal of the Missouri Dram Shop Act in 1934… it has been and continues to be the policy of this state to follow the common law of England… to prohibit dram shop liability and to

follow the common law rule that furnishing alcoholic beverages is not the proximate cause of injuries inflicted by intoxicated persons.
…A cause of action may be brought by or on behalf of any person who has suffered personal injury or death against an person licensed to sell intoxicating liquor by the drink for consumption on the premises who… has been convicted, or has received a suspended imposition of the sentence arising from the conviction, of the sale of intoxicating liquor to a person under the age of twenty-one years or an obviously intoxicated person if the sale of such intoxicating liquor is the proximate cause of the personal injury or death sustained by such person."

## 6. LIABILITY OF VENDORS IN THE ABSENCE OF A STATUTE

Twelve states, plus the District of Columbia, have no dram shop statutes. In seven of these states (Delaware, Kansas, Maryland, Nebraska, Nevada, and Virginia) courts have held to the traditional common law principle that it is the consumption, and not the sale or furnishing of liquor that is the cause of liquor related accidents. In these states the responsibility for damage lies with the intoxicated person and not with the vendor.

In Hawaii, Massachusetts, Oklahoma, South Carolina, Washington, West Virginia, and the District of Columbia, courts have modified the traditional common law approach and have created liability by putting an exception into the traditional common law rule that applies to the serving of alcoholic beverages to minors and intoxicated persons. For example, Massachusetts has no dram shop act, but does have an alcoholic beverage control act that forbid the sale of alcoholic beverages to persons under the statutory minimum drinking age and to intoxicated persons. Injured third parties may be able to recover under the common law theory of negligence -- by establishing that the vendor owed a duty of care, that the vendor breached that duty, and that the breach of duty was the cause of the damaged party's damages. Often, in these states, a vendor's violation of an alcoholic beverage control act can be used to show a breach of duty and therefore used as evidence of negligence.

## 7. LIABILITY OF SOCIAL HOSTS UNDER COMMON LAW

Traditionally, most courts are unwilling to impose liability on hosts, in purely social settings, for injuries caused by intoxicated adult guests. Generally, the rationale is the traditional common-law rule that it is the consumption, not the serving, of alcoholic beverages that is the proximate cause of injuries. Exceptions often apply, however, when alcohol is served to minors or already intoxicated guests. Courts in Arizona, Iowa, Louisiana, Minnesota, New Jersey, Ohio, and Pennsylvania have held social hosts liable under common-law negligence for providing alcoholic beverages to minors. Florida has an "open house party" statute that imposes criminal liability on an adult who knows that a minor is consuming alcoholic beverages at the adult's residence. Courts in Connecticut, Indiana, New Hampshire, New York, North Carolina, and Wyoming have also imposed common-law liability upon social hosts.

## 8. LIABILITY OF SOCIAL HOSTS UNDER DRAM SHOP ACTS

A few states allow dramshop actions against social hosts who serve alcoholic beverages to guests in a social setting. Colorado's statute applies to social hosts who willingly and knowingly serve alcohol to a guest under the age of 21. New Mexico's statute excludes social host liability unless the host "has provided alcoholic beverages recklessly in disregard of the rights of others." Oregon's statute imposes liability on social hosts who provide alcohol to visibly intoxicated persons or certain minors.

## 9. COMPARISON OF DRAM SHOP ACTS

This section contains a comparison of dram shop acts based upon major characteristics of these laws, including the types of sales the acts apply to, who may bring a cause of action, and statutory limitations on recoveries.

### 9.1 Types of Sales to Which the Acts Apply

Dram shop acts generally apply to the sale or furnishing of alcoholic beverages to minors or to intoxicated or drunken persons. All dram shop acts apply to selling or furnishing alcoholic beverages to minors. However, Alabama's and Wyoming's acts provides for recovery from vendors who unlawfully sell or furnish alcoholic beverages to minors only if the vendors who sell or serve alcoholic beverages had knowledge of or were chargeable with notice or knowledge of such minority. Alaska and Wisconsin's acts except vendors who secure, in good faith, identification that indicates that the person is of legal drinking age. California's dram shop act, an example of the narrow type laws discussed previously, applies only to sales of alcoholic beverages to obviously intoxicated minors. Connecticut's dram shop act applies only to the serving of intoxicated minors. Florida's act applies to vendors intentionally selling or serving alcoholic beverages with knowledge that the person was a minor. Georgia's act applies to the selling or serving of alcoholic beverages to persons who are not of lawful drinking age who will soon be driving a motor vehicle. Missouri's act dealing with sale of alcohol to minors applies only to vendors who have been convicted or received a suspended sentence for selling liquor to minors. North Carolina's act applies to the negligent sale of alcoholic beverages to an underage person when the consumption of the alcoholic beverage causes or contributes to injuries caused by the impaired operation of a motor vehicle by the underage driver.

In addition to the selling of alcoholic beverages to minor, most dram shop laws also address sales to other intoxicated persons. While the exact wording varies, most acts specify visibly intoxicated, noticeably intoxicated, or obviously intoxicated persons.
Kentucky, Louisiana and Wisconsin have some unusual wording in their acts. These statutes, examples of the narrow type acts mentioned earlier, restrict the alcohol vendor's liability, for the acts of intoxicated customers of legal drinking age, to situations involving consumption of alcohol by force or by falsely representing that a beverage contains no alcohol.

Colorado and Wyoming acts contain notice provisions. Colorado's act requires the husband, wife, child, parent, guardian, or employer of any habitual drunkard give written notice to vendors not to sell or give them intoxicating liquors. Colorado Statute 13-21-103 specifies that:

> "If any court, parent or guardian gives written notice to any licensee that his or her child or ward is under the age of twenty-one years, or any spouse, or dependent gives written notice to a licensee that his or her spouse or person liable for the support of the dependent is a habitual drunkard and any licensee so notified thereafter sells or gives any alcoholic liquor to the child, ward or habitual drunkard, the licensee may recover actual damages sustained, punitive damages and costs."

### 9.2 Who May Bring a Cause of Action

Not every person who suffers injuries or damages as a result of an intoxicated person's actions has a right of action against providers of alcoholic beverages under dram shop acts. Some acts specify that only the injured person, his or her spouse, and children are eligible. Other acts also add the parent, guardian or even the employer of the injured person. The broadest type of provision gives *every person* a right of action for bodily injury, property damage, or loss of support. While dram shop laws were not devised for the benefit of the intoxicated person who is injured as a result of his own acts, a few states do permit suits under common law (FC&S, 1999).

### 9.3 Statutory Limitations on Recoveries

Several states' acts limit the amount of damages that may be awarded in a dram shop action. Colorado's act limits the total liability in any civil action to $150,000. Connecticut's act imposes a recovery limit of $20,000 per person with an aggregate limit of $50,000 per intoxication. Illinois' act has different limitations, depending on whether the damages are for bodily injury, loss of support or loss of society. Damages for bodily injury are limited to $45,000. Damages for loss of support are limited to $55,000 and damages for loss of society are limited to $55,000. Maine's act states that damages may not exceed $250,000 for all claims arising out of a single accident or occurrence. However, Maine's act also excludes expenses for all medical care and treatment. New Mexico's act imposes limits of $50,000 for bodily injury or death of one person and $100,000 for bodily injury or death of two or more persons and $20,000 for property damage for each occurrence. North Carolina's act sets an aggregate limit of $500,000 per occurrence.

### 9.4 Statutes of Limitations

Several dram-shop acts include special acts of limitations that are different from their statutes of limitations under common-law. The statute of limitations for bringing dramshop actions in Colorado, Connecticut, Illinois and North Carolina is one year after the injury. The statute of limitations in Michigan, Minnesota and Vermont is two years. The statute of limitations in Idaho and Rhode Island is three years.

## 10. Insuring the Liquor Liability Exposure

Agents and brokers must also explain that commercial general liability policies, the primary source of liability insurance coverage for businesses, contain liquor liability exclusions that eliminate recovery for liability arising from the sale or furnishing of alcoholic beverages. These exclusions apply when the insured causes or contributes to the intoxication of any person, furnishes alcoholic beverages to minors, or furnishes alcoholic beverages to already intoxicated persons. Therefore, firms in the business of selling alcoholic beverages need the protection afforded by a liquor liability insurance policy. Liquor liability coverage forms are designed specifically to cover the liquor related exposures of insureds in the business of selling, serving, or furnishing alcoholic beverages.

Agents should also make their insureds aware of the exposure that can be present where the insured provides alcoholic beverages in a business-social setting, such as a company Christmas party or a company picnic. In some situations, when an employer provides liquor to an intoxicated client or employee and this intoxicated person drives away and subsequently injures a third party, the employer may be held liable.

Generally, when alcoholic beverages are provided without a charge of any kind, there is no exclusion in the commercial general liability policy that would eliminate coverage, since entertaining customers with alcoholic drinks or providing beer at a company picnic is not equivalent to being engaged in the business of selling or serving alcoholic beverages. However, when a business or institution sells alcoholic beverages at special events or charges admission to events where alcoholic beverages are available, courts have held that these organizations were in the liquor business and therefore not entitled to coverage under the commercial general liability policy. Coverage for this exposure, often called host liquor liability, may be available from specialty insurers.

Personal liability insurance, such as the coverage provided in Section II of a homeowner’s policy, may apply to persons serving alcoholic beverages in purely social settings like parties and cookouts. Personal liability insurance policies do not have host liquor liability exclusions. However, insurers might argue that the effect of the expected or intended injury exclusion contained in personal liability policies is to eliminate coverage for bodily injury or property damage that is reasonably foreseeable from the standpoint of the insured.

## 11. CONCLUSION

Businesses, insurance agents, and brokers should familiarize themselves with the liquor liability laws or court precedents in their own states in order to explain to clients and prospects the potential severity of the exposure they face. They should also be familiar with the treatment of liquor liability exposures in the insurance policies they purchase and offer for sale.

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# SPOKEN ENGLISH PROFICIENCY AND ACADEMIC PERFORMANCE: TESTING A POST-ADMISSION PROFICIENCY MEASURE

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## ABSTRACT

*There is mounting evidence that students undertaking tertiary education in a language other than their first language are at a disadvantage compared to those students studying in their first language. Taking the view that one possible approach to redressing this situation is to evaluate students' language ability at the commencement of a program and offer appropriate assistance, this paper examines one aspect of language ability using a post admission test. Students' frequency of usage of their language of instruction was measured for a number of language backgrounds and correlated with their academic outcomes for four types of assessments. Significant correlations were found for international students not studying in their first language with open-ended questions and with multiple choice questions. Implications of these findings for the usefulness of post admission testing and for possible future research are discussed.*

***Keywords:*** *L2, NESB, Higher Education, Tertiary Education, Language Testing, Business, Management*

## 1. INTRODUCTION

While the majority of university students receive tuition in their first or native language (L1), there is a substantial cohort of students in many western universities studying in their second or third language (L2 and L3 respectively) (Lietz, 1996; Gray & Vernez, 1996; Reid, 1997; Brooks & Adams, 2002). There is mounting evidence that L2 students (and L3 and higher) are at a disadvantage compared to L1 students, as language background in the language of instruction is shown to impact on academic outcomes (Jenkins & Holley, 1990; Farrell & Ventura, 1998; Logan & Hazell, 1999; Strauss, 2001; Brooks & Adams, 2002; Webb, 2002; Downs, 2006). Concern over the challenges faced by these L2 *etc*. students in coping with their first year of academic work led to this investigation.

Universities, in general, use the results of language tests to evaluate an international student's proficiency in the university's language of instruction. This approach has drawn its share of criticism on issues such as ethics, reliability and validity (Rees, 1999; Crusan, 2002; Seelen, 2002). Nonetheless, universities need some criteria on which to allocate their limited student positions. Irrespective of other issues around the tests and methods used, one issue that is difficult for universities to address is the length of time between testing a potential student to support an application, and their commencement of a program. In this indeterminate time period, a student's abilities may remain constant, improve or diminish, leaving the university with little real knowledge of the students' current abilities when they arrive in class.

A further problem is that international students are not the only students susceptible to language proficiency issues. Immigrant students and students from non-English speaking households may also experience language proficiency issues (Gray, 1996; Reid, 1997), yet receive admission without language proficiency testing. It can be argued that the need exists for academics to have current, cost effective indicators of students' language proficiency. The obvious solution would be for universities to use standard language testing instruments on entry, however the costs associated with such an approach may be considered prohibitive.

One alternative approach to address this issue in some measure is the Frequency of Speaking English (FSE) instrument proposed by Brooks & Adams (2002). This single item instrument asks students "How often do you speak English?" with the possible responses: all of the time; most of the time; some of the time; and, as little as possible. This measure was used in an earlier study as an indicator of students' competence in oral comprehension and spoken English. It assumes that a student's choosing to speak English more often reflects a greater degree of comfort and confidence in using English, and inherent in this, is a higher level of comprehension, and a greater ability to understand and participate in English communications including lectures, tutorials and other course requirements. Students who have a higher

FSE would gain additional practice at constructing and negotiating meaning in all aspects of study, compared to students with lower FSEs (Brooks & Adams, 2002). This assumption of beneficial practice is consistent with the "incidental" L2 vocabulary acquisition reported by Paribakht & Wesche (1999) although not necessarily structured around formal curriculum (Ducharme *et. al.,* 1998).

Brooks & Adams (2002) reported promising results from their pilot study, finding different FSE profiles for local and international students, mirroring similar differences in student grades although a relationship between FSE and academic outcomes was not addressed. International student's FSE scores demonstrated gender-based differences. The study was limited, however, by not having FSE and academic outcomes paired for each student. In addition, both international students and non-English speaking local students were not separately identified by country. The present study seeks to address shortcomings of the pilot study. The language of instruction for the students studied was English. It is noted that students can have English as their first language yet come from a range of nations, and that local students may not have English as their first language. Those people for whom English is their first language are referred to as having an "English speaking background" (ESB), while others are referred to as having a non-English speaking background (NESB).

Two further points are relevant to this study. Firstly, considering university admission testing in Africa, Seelen (2002) has reported overall school performance to be a better indicator of university performance than performance in school English. The equivalent Australian measure for this study is the University Admissions Index (UAI). Seelen's (2002) study suggests that UAI will be a better predictor of performance than FSE. Secondly, Reid (1997) has noted that there can be substantial differences between local and international NESB students with regard to their specific language aptitudes. In particular, NESB immigrants tend to learn their English orally, and consequently have substantial vocabularies and are well practiced in the type of oral discourse measured by the FSE. International students, on the other hand, have learned their English more formally, and compared to the local NESB students, may have a stronger sense of grammar, but a weaker vocabulary. As such, international students are more likely to benefit from the type of practice suggested by one's FSE. This would suggest that the relationship between FSE and academic outcomes would be stronger for international NESB students than for the local NESB students.

The following research hypotheses have been formulated for this study:

H1: that there is a correlation between FSE and academic outcomes for:
- (a) local NESB students, and
- (b) international NESB students;

H2: that FSE will relate more significantly with academic outcomes for international NESB students than with local NESB students

H3: that student's academic outcomes will relate more significantly with their UAIs than with their FSEs.

## 2. METHODOLOGY

A self-report survey was distributed to a class of 427 first year management students. The students were from a range of degree programs including Business, Marketing, Finance and Accounting. Survey data used in this study was: country of origin, from which students were designated either local or international; the students' first language, from which students were designated either ESB or NESB; and FSE. In addition, the students' academic results for four assessment items and their UAI were collected and collated with the survey data. The four assessment components were a group presentation, a group project, the open ended (written) section of the final exam, and the multiple choice question (MCQ) section of the final exam. The group presentation required each group, nominally of six students, to read an article(s) on their set topic, conduct further research, prepare a report and present their findings to their class. The group project required each group to consider a set of readings, conduct their own additional research, and write a report answering a set question. The final exam was completed individually under invigilated exam conditions.

Some 374 cases for which FSE and language background could be identified were cross tabulated. For local NESB students, a total of 85 usable cases were found. The international NESB students presented only 37 usable cases, largely because UAIs were not available for many of these students. For each of these two NESB groups, multiple linear regressions were performed with UAI and FSE as the independent variables, against the results for each of the four assessment tasks as the dependent variable.

## 3. RESULTS

Of the total 374 students in this study, more than half (56%) were local ESB students, 4% were international ESB mainly from North America, 23% were local NESB, and 17% were international NESB students. While very few students (only 3) reported speaking English as little as possible, the majority (57%) spoke English all the time, 28% most of the time and only 14% spoke English less frequently.

Examination of Table 1, a cross tabulation of FSE v language background, shows, prima facie, two distinct patterns of FSE, one for ESB students, and another for NESB students. The results of Table 1 are generally consistent with the findings of Brooks and Adams (2002), although their study did not separately identify ESB and NESB cases within the local and international categories, distinct patterns of FSE behaviour were, prima facie, evident for local and international students.

**TABLE 1. FREQUENCY OF SPEAKING ENGLISH AND LANGUAGE BACKGROUND**

| Language Background | Frequency of speaking English | | | | Total |
|---|---|---|---|---|---|
| | As little as possible | Some of the time | Most of the time | All of the time | |
| ESB Local | 1 | 0 | 24 | 183 | 208 |
| ESB International | 0 | 1 | 3 | 13 | 17 |
| NESB Local | 1 | 21 | 51 | 14 | 87 |
| NESB International | 1 | 32 | 26 | 3 | 62 |
| Total | 3 | 54 | 104 | 213 | 374 |

The results of multiple linear regression are given in Table 2. With regard to Hypothesis 1(a), no significant correlations were found between FSE and academic outcomes for local NESB students. For international NESB students, correlations near or below the 0.2 were found for the group presentation and both final exam components. No correlation was found, however, between group project results and FSE. Given the limited sample size for this group, Hypothesis 1(b) is accepted. As no significant results were found for the local NESB group, the relationship between FSE and academic outcomes is more significant for international NESB students than for local NESB students (Hypothesis 2). As the magnitude and significance of the UAI coefficient was greater than that of the FSE coefficient in all cases with significant correlations, Hypothesis 3 is also accepted.

The results of Table 2 indicate that students' past academic performance, in this study measured by UAI, is a better predictor of future academic performance than FSE, although FSE is significant for international students. Several interesting questions arise from this and the above-mentioned findings. Firstly, what is the appropriate language requirement for international NESB students, and should it be related to their prior academic achievement? Secondly, how do we separately identify the discrete effects of prior academic achievement and language abilities (including FSE) on future academic performance? Thirdly, how do we reconcile the substantial body of evidence that international NESB students are at a disadvantage (Jenkins and Holley 1990, Farrell and Ventura 1998, Logan and Hazell 1999, Strauss 2001, Brooks and Adams 2002, Webb 2002, Downs 2006) with the relatively limited influence of language ability represented by FSE in this study?

**TABLE 2. CORRELATIONS BETWEEN ASSESSMENT RESULTS AND UAI AND FSE FOR LOCAL AND INTERNATIONAL NESB STUDENTS**

| Assessment component | Local NESB (N=85) | | | | | International NESB (N=37) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | $R^2$ | UAI | | FSE | | $R^2$ | UAI | | FSE | |
| | | Beta | Sig | Beta | Sig | | Beta | Sig | Beta | Sig |
| Final exam Multiple Choice | .11* | .33 | .00 | -.01 | .90 | .53* | .64 | .00 | -.18 | .17 |
| Final exam open ended | .20* | .44 | .00 | .05 | .64 | .29* | .41 | .01 | -.22 | .17 |
| Coursework group presentation | .02 | .13 | .24 | -.04 | .72 | .10** | .32 | .07 | .22 | .22 |
| Coursework group project | .01 | .10 | .35 | -.03 | .80 | .02 | -.03 | .89 | .13 | .49 |

*  *regression significant at .01 level;*
** *regression significant at .20 level*

## 4. DISCUSSION

This study presents evidence that, for some students in a first year university Business Administration subject, success in completing some assessment tasks is likely to be related to the student's FSE. It would appear Table 1 that there is greater similarity, in terms of spoken English usage, between students with the same language background than between students with the same national origin. Local and international ESB students speak English either "all of the time" or "most of the time" in 99% and 94% of cases respectively. In contrast, local and international NESB students speak English either "some of the time" or "most of the time" in 83% and 94% of cases respectively.

It is interesting to note that the effect of FSE appears to vary with assessment type, being positively correlated with the group presentation coursework, but negatively correlated with exam-based assessments. The language behaviour measured by the FSE is presumed to reflect a student's competence in oral comprehension and spoken English, which in turn will be reflected in their academic outcomes. With regard to the positive correlation between FSE and group presentation outcomes, it is reasonable to suggest that a higher FSE would indicate a greater degree of comfort and willingness in engaging in spoken English discourse, such as that involved in working with a group, which in turn may promote more efficient and productive group processes for a beneficial outcome. The negative correlation between exam components (MCQ and open-ended) and FSE is more difficult to explain. It suggests that the more frequently a student speaks English; the lower will be that student's exam marks. If this were the case then local students would achieve lower academic outcomes than international students, contrary to the research findings (*e.g.* Downs, 2006). MCQ and open-ended exam assessments involve reading and writing rather than oral language skills. These findings may suggest that those students with high FSEs are unaware that their oral competence does not necessarily translate into good reading and writing abilities. Further investigation regarding the determinants of the negative correlation between FSE and exam outcomes is recommended.

NESB students, both local and international, are a substantial part of the student population (Lietz,1996; Gray & Vernez, 1996; Reid, 1997; Brooks & Adams, 2002). It therefore behoves academics, both ethically and pastorally to determine how best to meet the needs of these students, providing initiatives that foster the best outcomes for both parties. There is some guidance as to who to assist, namely those with poor prior academic performance, but this is an obvious outcome. With regard to language-based indicators of future poor academic performance, the FSE is a valuable first step, but it is not a comprehensive measure, and so further research is needed to identify both the specific language-based issues impacting on particular assessment outcomes such as vocabulary and methods to measure them post admission (Farrell & Ventura 1998). While many universities are providing language support for students (Reid, 1997; Zamel, 1995) it may be possible to better identify candidates for such assistance.

Finally, FSE has demonstrated some interesting correlations with academic outcomes for international NESB students. These results warrant further scrutiny of this promising measure to determine the nature and impact of FSE on students' academic outcomes and to identify appropriate additional items to better determine, post admission, a students' learning and assessment related language abilities.

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# ANALYSIS OF THE LONG TERM EFFECTS OF THE EURO

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## ABSTRACT

*This research paper analyzes the effects of the introduction of the euro on European stock market values by analyzing the short and long-term performance of different European index values. The study further investigates the assumption that the introduction of the euro has had positive effects and that these effects were not fully impounded in the stock prices prior to the event. A comparison is also presented of the stock market reactions of those European countries that have adopted the euro with those that did not join the Eurozone. The results of the analysis reveal that the introduction of a single currency has positive effects on participating countries immediately after the event. However, the third and fifth year following the introduction of the euro did not exhibit abnormal performance*.

***Keywords:*** *Introduction of the euro, Market Integration, long term event study*

## 1. INTRODUCTION

The introduction of the euro has been expected to bring many benefits to participating countries and to the stock values of those countries (European Commission, 1990; Prati & Schinasi, 1997; De Grauwe, 2003). The focus of this research paper is to analyze the impact of the introduction of the euro on European stock markets for the first five years. We have tested the effects of the introduction of the euro on European stock market prices by analyzing the short and long-term performance of different European index prices. The study starts with a review of literature of the main theories associated with the effects of the euro on European stock markets including the other significant researches done in this area. The second part includes the main contribution of this paper with empirical analysis, interpretation of results and evidence on the effects on European stock market returns. The remainder of the paper proceeds as follows. Section 2 reviews the research done in this area, and the hypotheses suggested for this study. Section 3 describes the data set and the methodology. Section 4 reports the results of the short-term and long-term event-study for the Eurozone and the rest of Europe. Section 5 presents our conclusions.

## 2. LITERATURE REVIEW

Morana & Beltratti (2001) analyse stock markets in the UK, France, Germany, Italy, and Spain, as well as the US market, in order to evaluate the response of different markets to the introduction of the euro and the changes in volatility brought about by it. They conclude that the effect of the euro on stock markets is not due to a modification of the currency risk premium, but mainly to the stabilization of fundamentals for traditionally unstable European countries like Italy and Spain. They further conclude in their study that the introduction of the euro has supported the macroeconomic convergence process. Fratzscher (2002), who employs a GARCH model on the uncovered asset return parity and finds that European equity markets have become highly integrated only since 1996, with EMU being the major force behind this development. In the most recent study, Aggarwal et al. (2003) examine the extent and evolution of European equity market integration over the 1985 to 2002 period. They find that there has been an increased degree of integration, especially during the period immediately preceding the introduction of the euro.

Green & Bai (2004) analyse the immediate effects the euro had on European and worldwide stock markets. They conduct an event study to demonstrate that the immediate impact of the euro was not fully impounded into European stock prices prior to the event by providing evidence for significant abnormal returns after the euro's introduction. They argue that, despite the fact that the introduction of the euro was not only an anticipated but even a known event, there was considerable uncertainty before its introduction about the costs and benefits. The main reasons are uncertainty about the credibility and effectiveness of the ECB and about the exact impact of the euro. They find that historic inflation and interest rates had a significant impact on cross-country variations in response to the euro, concluding that the anti-inflation credibility was a central factor in the stock market's reaction to the euro.

Regarding financial market integration, the findings are somewhat ambiguous. DeGrauwe (2003) argues that obstacles still exist to the full integration of the equity markets in the Eurozone. These obstacles are related to legal and regulatory differences. Large differences in corporate taxation and tax deductions create difficulties in comparing the value of firms. More importantly, changes in these laws and regulations in one country will affect the value of the firms incorporated in these countries. As a result, a country risk is attached to shares, despite the fact that the exchange risk has disappeared. He concludes that the continuing existence of country risk will slow down the full integration of the equity markets within the Eurozone. This argument is supported by Holmes (2003) who finds little evidence for increased financial integration after January 1999. In contrast, Rouwenhorst (1999) finds that the spread between interest rates of EMU countries has decreased.

A considerable amount has been written on the consequences of the increase in financial market integration. In their paper about the euro's impact on capital markets, DeJong et al. (2000) find that the equity markets have strongly benefited from the euro introduction. Market capitalisation in Eurozone equity markets has grown by 52% between December 1998 and December 1999. Although this is not solely attributable to the introduction of the euro, the euro has functioned as a catalyst for change. The authors find that the euro has stimulated a growing number of issuers and larger volumes of issues, which have appealed to a larger investor base. Thus, they conclude that the euro has boosted equity markets.

The studies, as mentioned above, provide many insights into the effects of the introduction of the euro and the reactions of European stock markets. However, they either concentrate on the immediate effects or focus merely on the effects with respect to market integration, which is proxied by a decline in stock return volatility. So far, no study has looked at the long-term effects of the common currency on European stock markets. This seems even more necessary as some authors argue that the observed effects are more likely to be due to short-term reactions than to long-term benefits. For example, Detken & Hartmann (2000) state that the interest of global fund managers in acquiring Euro-denominated equity during 1999 was only short-lived. Therefore, a full investigation of the short and long-run abnormal returns is necessary to further investigate whether the observed short-term abnormal returns are due to real benefits or only to the overreaction of investors.

## 3. RESEARCH METHODOLOGY

We have use the methodology of event studies, as described by Brown & Warner (1985) and Campbell, Lo & MacKinlay (1997), to analyze the impact of the introduction of the euro on European stock index values. The expected or normal returns are expressed based on the market model for a given regional index:

$$R_{i,t} = \alpha_i + \beta_i * R_{m,t} + \varepsilon_{i,t} \qquad (1)$$

where $R_{i,t}$ is the return on the regional index i at time t and $R_{m,t}$ is the daily return on the world market index (Dow Jones STOXX Europe index). For index i, the abnormal return on day t, $AR_{i,t}$, is calculated as:

$$AR_{i,t} = R_{i,t} - (\hat{\alpha}_i + \hat{\beta}_i * R_{m,t}) \qquad (2)$$

where $R_{i,t}$ is the return on index i on day t, $\hat{\alpha}_i$ and $\hat{\beta}_i$ are the estimated parameters of the market model using the Scholes-Williams (1977) method, and $R_{m,t}$ is the rate of return on the market index on day t. The cumulative abnormal returns (CAR) are calculated as follows:

$$CAR_{i,t} = \sum_{h=T-11}^{t} AR_{i,t,h} \text{ , t = T-11,…,T,…,T+11} \qquad (3)$$

where t = (T-11,…,T,…,T+11) represents the event-window and T = 0 the event day. The significance of abnormal returns between the CARs of the Eurozone compared to Europe ex Eurozone has been explained using a two-tailed t-test. We have defined the study period as follows:

| Table 1: Event Study Period | | |
|---|---|---|
| **Variables** | **Days/Date** | **Explanation** |
| Estimation Period | 120 days | Day-131 to Day-12 |
| Event Day | January 4, 1999 | the first working day after the new-year holiday and weekend; |
| Event Widow Period | December 14, 1988 – January 19, 1999 | 11 days prior to the event and 11 days after the event |

Since the introduction of the euro was an anticipated event, the pre-event window was set to ensure that the reactions prior to the event day that are actually triggered by the event are included. The post-event was set as the same period of 11 days, because it is expected that the short-term effects will level out during this period.

In this study, the buy-and-hold methodology is used to measure the pre- and post-event long-term abnormal performance, since the CAR approach is heavily criticised in long-term event studies. According to Barber & Lyon (1997) and Kothari & Warner (1997), the best method to detect long-run abnormal returns is to calculate abnormal returns as the simple buy-and-hold abnormal return of the sample firm less the simple buy-and-hold returns on a reference portfolio. Conrad & Kaul (1993) find that cumulative abnormal returns are biased because they process not only true returns but also the upward bias in single period returns induced by errors in measurement. In contrast, buy-and-hold returns do not suffer from this bias. Moreover, CARs implicitly assume frequent and thus costly portfolio rebalancing. In this study, buy-and-hold returns are preferred to cumulative abnormal returns to calculate long-term abnormal returns. The returns calculated in this way represent a passive investment from the event date or start date onwards.

The buy-and-hold abnormal returns for index i over the holding period of T1 and T2 are calculated as follows:

$$BHAR_{i,t} = \prod_{t=T1}^{T2}(1+R_{i,t}) - \prod_{t=T1}^{T2}(1+E(R_{i,t})) , \qquad (4)$$

where $BHAR_{i,t}$ is the buy-and-hold abnormal return. $R_{i,t}$ is the observed return, and $E(R_{i,t})$ the expected or normal return on the regional or country index i at time t. To calculate abnormal returns, the market adjusted model is employed as the expected returns model following the method used by Kothari & Warner (1977). The abnormal return for index i in month t is:

$$MAR_{i,t} = R_{i,t} – R_{m,t}, \qquad (5)$$

where $R_{i,t}$ is the monthly return for index i in month t, and $R_{m,t}$ is the monthly returns on the benchmark or market index in month t.

Using this model, the BHARs are measured as index i's buy-and hold monthly returns minus the buy-and hold compounded return from the market portfolio:

$$BHAR_{i,t} = BHR_{i,t} - BHR_{m,t} , \qquad (6)$$

As with the short-term study, a two-tailed parametric t-test has been used to examine whether the abnormal returns for the analysed regional and country indices are statistically significant. It also tests whether the abnormal returns of large, middle, and small capitalization firms within the Eurozone are statistically significant.

The choice of the measurement interval for long-term performance of the stock markets after the euro introduction involves a trade-off. On the one hand, a longer interval results in greater abnormal performance, but on the other hand it also increases the variability of returns, reducing the significance.

Balancing these two effects, three intervals are arbitrarily chosen: a one-year-window, and both a three-year and a five-year window which capture a larger period of abnormal performance.

The five year pre-event BHARs are calculated until the month prior to the introduction of the Euro. The long-run post-event market adjusted BHARs are calculated starting from the month following the introduction of the euro for three periods, namely one year (12 months), three years (36 months), and five years (60 months). Khurshed et al. (1999) argue that the immediate period around an event should be excluded to avoid short-run reactions around the event period in the calculation of long-term returns. To control for this effect, a second set of pre-event and post-event BHARs is calculated excluding one month prior to and one month following the event.

## 4. RESULTS

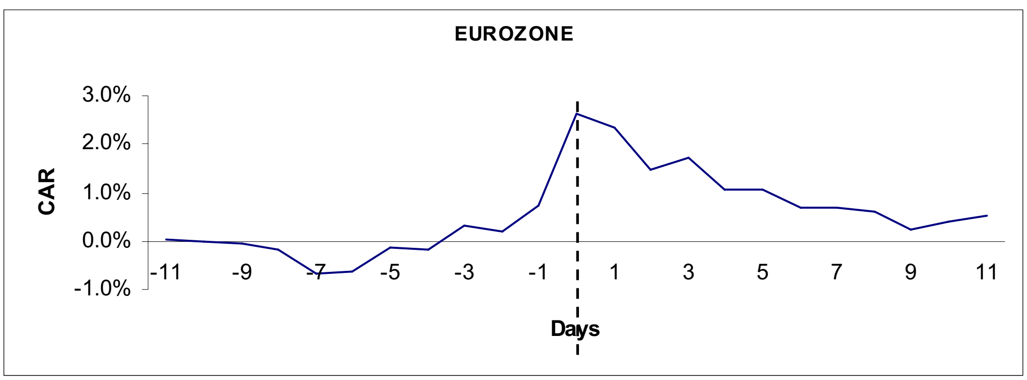
The market model estimates are presented in Table 2 to examine the hypothesis that the introduction of the euro has had a positive effect on European stock markets immediately after the event.

**Table 2: Market Model Estimates**

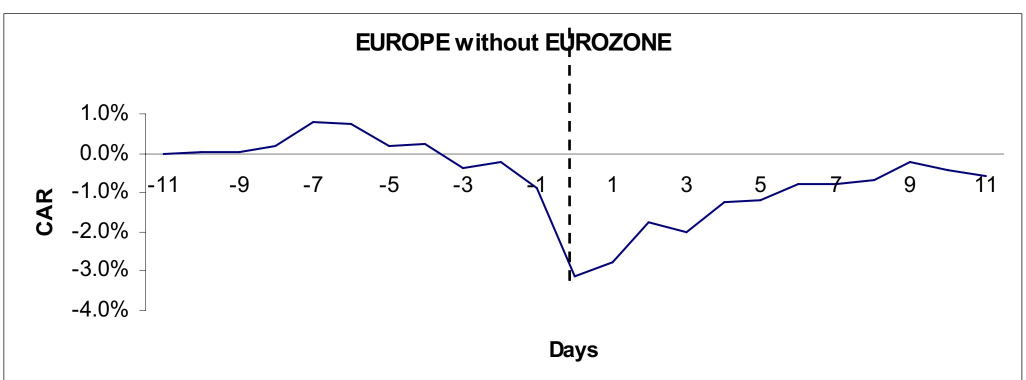
| Index | $\alpha$ | t-statistic (P-value) | $\beta$ | t-statistic (P-value) | $R^2$ |
|---|---|---|---|---|---|
| Eurozone | 0.00014 | 0.52 (0.61) | 1.0623*** | 25.38 (<0.001) | 0.8921 |
| Europe ex Eurozone | -0.00015 | -0.47 (0.64) | 0.9273*** | 22.12 (<0.001) | 0.7423 |

* Significant at the 10% level ** Significant at the 5% level *** Significant at the 1% level

**Figure I**
**Cumulative abnormal returns**
**Part A: Cumulative abnormal returns of the Eurozone**




**Part B: Cumulative abnormal returns of Europe without Eurozone**



| Table 3: Comparison of CARs | | | | |
|---|---|---|---|---|
| Region | Highest CAR | Date | Lowest CAR | Date |
| Eurozone | 2.63% | 04.01.1999 | -0.67% | 18.12.1999 |
| Europe ex Eurozone | 0.79% | 18.12.1999 | -3.15% | 04.01.1999 |

The estimates for α are 0.00014 for the Eurozone and -0.00015 for Europe without Eurozone. The values are insignificant for both regions. The estimates for β are 1.0623 for the Eurozone and 0.9273 for Europe ex Eurozone, both significant at the 1% significance level. The $R^2$ is very high with 0.8921 and 0.7423, implying that the employed model is highly linear. Figure I shows the short-term abnormal returns for the Eurozone and for Europe without Eurozone over the entire event-period. The most immediate feature of the abnormal returns is the fact that the CARs in the Eurozone are uniformly positive in the period from day -3, i.e. three days prior to the event, to the end of the event-window. In contrast, the CARs in Europe ex Eurozone are uniformly negative over the same period. Figure I shows that the market started to impound the positive effects of the euro in the index values about one week prior to the actual event, indicating that the event was anticipated. We compared the highest and the lowest CARs for both samples. In the Eurozone, the lowest CAR occurred on 18 December, seven working days prior to the introduction of the Euro, and the highest CAR on 4 January, the first working day immediately after the event, suggesting that the market response to the euro was very prompt. For the European excluding Eurozone countries, the reverse effect is observable. The highest CAR for this region occurs on 18 December, whereas the lowest CAR occurs on 4 January.

Table 4 reports the CARs for different periods of the short-term event-window. Over the entire period, the abnormal return is 0.52% in the Eurozone and -0.57% in Europe without Eurozone. Dividing the event-window in three periods shows that the positive effects in the Eurozone mainly occurred in the pre-event period and on the event-day. In contrast the abnormal returns in Europe ex Eurozone are negative for the pre-event period and on the event-day in particular. All abnormal returns are significant at the 1% level.

| Table 4: CARs over Different Periods | | | | |
|---|---|---|---|---|
| **Period** | **Event-window** | **Pre-event** | **Event-day** | **Post-event** |
| | 14/12/98-19/01/99 | 14/12/98-30/12/98 | 04/01/99 | 05/01/99-19/01/99 |
| Eurozone | **0.52%** | **0.74%** | **1.89%** | **-2.11%** |
| | (3.71***) | (5.25***) | (13.51***) | (-15.06***) |
| Europe without Eurozone | **-0.57%** | **-0.87%** | **-2.29%** | **2.58%** |
| | (-3.35***) | (-5.10***) | (-13.45***) | (15.20***) |

* Significant at the 10% level ** Significant at the 5% level *** Significant at the 1% level

The results of the short-term study reject the null hypothesis that the introduction of the euro has not had beneficial effects for Eurozone countries. Stock indices results also suggest that the euro has had negative effects on the stock indices for those countries that did not adopt the Euro. The long-term abnormal returns are calculated to examine whether the short-term abnormal returns are of a long-term nature or due to overreaction. Table 5 shows the abnormal stock-price performance for five years prior to the event, as well as for years one, three, and five after the event. Buy-and-hold abnormal returns for Eurozone and Europe without Eurozone are estimated relative to the returns of the European index.

The Eurozone index performs well immediately after the event. During year one, the Eurozone index outperforms the benchmark index by 0.67%. Consistent with the overreaction hypothesis (De Bondt & Thaler, 1985), stock-price performance deteriorates over the long-term. The three and five year buy-and-hold abnormal returns are negative. The evidence of negative abnormal performance is statistically strongest in the third post-event year, in which the Eurozone sample underperforms the benchmark sample by 5.79%. For Europe without Eurozone, the results are reversed. The five year pre-event and one year post-event buy-and-hold abnormal returns are significantly negative (-8.63% and -1.12%).

Over the three and five year post-event period, the Europe without Eurozone index outperforms the benchmark index by 4.98% and 3.94% respectively. The results do not reject the null hypothesis the hypothesis that the effects of the introduction of the euro on European stock markets are not of a long-term nature. Instead, the results indicate that the beneficial effects of the euro were only short-term in nature since the Eurozone stock markets underperformed the Europe without Eurozone index over the long-run.

**Table 5: Buy-and-Hold Abnormal Returns – Eurozone vs. Europe without Eurozone**

| | Pre-event | Post-event | | |
|---|---|---|---|---|
| | 5 years | 1 year | 3 years | 5 years |
| **Eurozone** | **6.92***** | **0.67*** | **-5.79***** | **-4.64***** |
| (t-statistic) | (10.17) | (1.99) | (-8.52) | (-6.82) |
| P-Value | <0.01 | 0.076 | <0.01 | <0.01 |
| **Europe without Eurozone** | **-8.65***** | **-1.12*** | **4.98***** | **3.94***** |
| (t-statistic) | (-14.98) | (-1.81) | (7.21) | (5.72) |
| P-Value | <0.01 | 0.085 | <0.01 | <0.01 |

* Significant at the 10% level ** Significant at the 5% level *** Significant at the 1% level

Table 6 summarizes the tested hypotheses and the results. Overall, the evidence suggests that the Eurozone stock markets experienced significant positive abnormal returns in the period immediately following the introduction of the Euro. However, there is no evidence for three or five year over performance in the Eurozone index over the European or Europe ex Eurozone indices.

Table 6: Summary of Hypothesis and Results

| Hypothesis | | Result | Evidence |
|---|---|---|---|
| $H_{01}$ | The introduction of the euro has had no effect on European stock index values | rejected | The findings provide evidence that the introduction of the euro has had positive effects on European stock markets. |
| $H_{02}$ | There are no long-term effects of the introduction of the euro on European stock markets | not rejected | The findings provide no evidence that the introduction of the euro has had positive long-term effects on European stock markets. |

## 5. CONCLUSION

This study contributes to the literature on the effects of the introduction of the euro on European stock markets. While there are several studies of short-horizon returns after the launch of the Euro, this is the first known paper to consider long-horizon stock market performance. The paper investigates the reactions of two regions, namely the Eurozone and Europe ex Eurozone. It also investigates different subsets of the Eurozone index by applying a range of metrics to measure long-horizon performance. As previous studies report, this paper finds that abnormal performance occurs immediately after the introduction of the Euro. Positive CARs for the Eurozone index are found around the event-date, as well as positive BHARs over the one year period. However, there is no abnormal performance in the three and five years following the introduction of the Euro.

From the point of view of stock market efficiency, European stock markets have indeed reacted in the way predicted by a fundamental valuation model in terms of stock market performance, even though the large jumps in the levels of the stock prices around the introduction of the euro do not seem to be consistent with efficiency in a strict sense. The event was expected and should have been discounted in stock prices before 1 January 1999.

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# MARKETING THE ROMAN CATHOLIC DIOCESAN PRIESTHOOD TO GENERATION Y: UNDERSTANDING HOW AND WHERE TO MARKET VOCATIONS EFFECTIVELY

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Cheryl L. Buff, Siena College, Loudonville, New York, USA

## ABSTRACT

The shortage of Roman Catholic priests in the United States is revealing itself as a large number of priests who were ordained in the 1950's and 1960's are retiring at a rate that is faster than American Catholic seminaries can compensate for. The future of the Catholic Church rests in the hands of Generation Y, yet a large percentage seemingly has not considered the seminary as an option. Diocesan vocation directors need to understand the lack of consideration, as well as how and where to market vocations effectively to this age cohort. A total of fifty-three Generation Y seminarians from seminaries in the Northeast United States participated in this study. Results suggest that seminarians are very similar to the overall Generation Y population, from their interest in tradition to their love of challenges, friendships, and volunteerism. Recommendations for building awareness are discusses limitations and suggestions for future research are presented.

## 1. INTRODUCTION

Following a trend where generations are labeled by their contemporaries, it is no surprise that Generation Y, or those born between 1978 and 2000, has itself been a generation classified by its overall attitudes and practices. This generation is primarily a conformist, team-oriented, confident, and well-educated group of individuals. They are more interested in building up institutions, rather than tearing them down. Howe and Strauss (2003; 2000), Drake (2004), and Martin and Tulgan (2001) believe that the traditional values that Generation Y possesses will allow them to become the next 'hero' generation; the generation that comes along about every four generations to correct the problems, deficiencies, and negative issues created by the generations that came before them. It is for these reasons, as well as many others, that Generation Y provides hope for many American institutions, including the Catholic Church.

The general trends that have been revealed in recent years all indicate that Generation Y could be the generation to resurrect vocations in the Catholic Church. A few of these trends include a greater need for community, better attitude and conduct, and a "generation fully prepared to accept challenges… and triumph over whatever history has in store for them" (Howe and Strauss, 2000). In fact, young Catholics today provide a great deal of hope for dioceses across the United States. It is, however, important to understand that many members of Generation Y do not even consider the seminary as an option for their post-graduate life, in part due to the lack of marketing efforts of past decades.

There have been many studies conducted over the past decade (Hicks, 1999; Howe, and Strauss, 2003, 2000; Martin and Tulgan, 2001) that have been focused primarily on Generation Y. On the other hand, very little research has been conducted in the area of marketing vocations in the Catholic Church. Further, a search of the literature suggests that little, if any, research has been done to connect Generation Y and Catholic vocations.

## 2. LITERATURE REVIEW

A steady decline in Catholic vocations has been a major issue for the Roman Catholic Church since the late 1960's, as the youngest generation of the priesthood shifted from the Silent Generation (those born between 1925 and 1945) to the Baby Boomer Generation. Perhaps a continued decline in vocations to the priesthood can be attributed to the personality traits of the Baby Boomers and Generation X (those born between 1965 and 1977). These two generations can be characterized as being individualistic, materialistic, and anti-establishment. In addition to this, however, a lack of high-quality marketing and promotion of the Catholic Church and church vocations may also be at fault. As a result, the emergence of a new generation into the seminary demonstrates a great opportunity for the Catholic Church to take a new stance on vocations in the Catholic Church. Not only can this time in the Church's history be the perfect opportunity for a new outlook on marketing vocations (due to the timing of a generational shift), but the major character traits of Generation Y have a direct correspondence to the qualities of a good leader, suggesting they might be good leaders within the Church. These traits also suggest an opportune time to attract young men who have a greater tendency for volunteerism, commitment, values, and a need for community. The makeup of Generation Y, as indicated by Howe and Strauss (2000), appears to be an excellent fit for what a "good" priest would be in the eyes of the Catholic Church. According to Howe and Strauss (2000), the seven core traits of young people from Generation Y are that they are special, sheltered, confident, team-oriented, conventional, pressured, and achieving.

The number of priests retiring today is greater than the rate at which they are being replaced by new priests in the Roman Catholic Church. The majority of these recent retirees began with the G.I. generation in the late 1970's, and now consists of many members of the Silent generation. These priests began retiring from the priesthood since about 1976 (based on an anticipated retirement age of 75), when the shortage of priests was just beginning. Now is the time for the present hero generation to fill the vacancies created by the death of the prior hero generation, in this case the priests who are dying and retiring from the Roman Catholic priesthood.

## 3. METHODOLOGY

### 3.1 Data Collection

This research was performed using a paper and pencil survey. The survey was designed to understand current Generation Y seminarians from select seminaries. The survey was constructed to enable us to understand more about the seminarians themselves, such as the background of their vocation (the age at which they had an initial interest, and people who encouraged/discouraged them), a basic personality profile, family structure and its influence in their lives, and a background on their education, as well as their interests at different educational milestones. We used a convenience sample of Generation Y seminarians drawn from three Catholic seminaries in New York State, one in Baltimore, and one in Washington, D.C. We collected data from 53 seminarians. To be consistent with our defined dates for Generation Y, only seminarians who were born after January 1, 1978 completed the survey. The overall response rate was 62%.

### 3.2 Data Analysis

Data was input and analyzed using SPSS. Frequency table calculations and cross tabulations were performed. The initial focus of our analysis involved a breakdown of respondents' information by age and/or education. Quantitative questions that involved age were designed to assess an initial interest in a vocation and were broken down into six different age segments (1-6, 7-9, 10-12, 13-15, 16-18, and 19-21). The majority of questions evaluated by educational level (elementary school and/or middle school, high school, and college), involved qualitative responses and was intended to assess the respondents' exposure to different media types at each respective educational level. A link could then be made between either age category or educational level, and media usage and lifestyle factors. As a result, we were able to determine the age brackets or level in school that would be most appropriate to target for vocation promotion. We were also able to review basic personality characteristics of our Generation Y seminarians. These self-reported personality characteristics, coupled with the outcome of the media usage results, would allow us to recommend the ideal marketing campaign to promote a greater awareness of a priesthood vocation to the appropriate segment of Generation Y (in our case, Generation Y individuals in the dioceses that serve as a feeder into various seminaries in the Northeast).

## 4. RESULTS

### 4.1 Sample characteristics

Respondents were asked to indicate the age range when they were first interested in both a religious vocation and the priesthood. In both cases, the largest percentage (24.5% and 20.8%, respectively) of the responses fell within the 13-15 age range. In terms of family size, the majority of respondents reported having a family with two children, including themselves. In addition, Catholic schooling was a part of about half of the respondents' childhoods, and participation increased as they aged. Eighty-three percent were encouraged to attend mass regularly by their parents and an astounding 91% reported that they did in fact attend mass on a regular basis growing up. Conversely, a small percentage reported that they did not go to mass regularly at one point or another in their childhood, but this percentage fell by almost 50% from the time that they were in elementary school to the time that they graduated college. In terms of political and religious views, most described themselves as being conservative (53% and 51%, respectively).

### 4.2 Personality

A great majority of respondents indicated that they "moderately or strongly agreed" with valuing friendship, helping others, and family. In addition, respondents preferred to spend their free time in a variety of different ways. The most common responses, were "socializing", "reading", and "listening to music". Lastly, our sample described themselves in regard to a range of different personality characteristics. The most common answers were "reliable", "helpful", "approachable", and "easy-going".

### 4.3 Lifestyle

An overwhelming number of respondents reported that the majority of their religious participation was being an acolyte. The percentage of respondents who reported being an acolyte decreased with age, from 65% of respondents in elementary school to 27% of respondents in high school. A drop-off in acolyte participation at the college level is due to the fact that almost 20% of respondents reported "college seminary" as the number one source of religious involvement when they were at college-age.

In terms of athletic participation, a large percentage reported being actively involved in sports from a very young age. This interest in athletics, however, declined by about two-thirds from the respondents' pre-teen years through their college years, and the main sport participated in shifted from baseball to football as the sample aged. Likewise, an interest in sports was reflected in the sample's responses to a number of other questions. Sports were listed as one of the top-three answers for every age category for questions asked about favorite websites, favorite recreational activity, and the favorite way to spend their free time.

### 4.4 Influences on Vocations

The seminarians were asked a variety of questions on this topic, including who encouraged and discouraged their vocation, and who had a large influence on their decision to pursue the priesthood. For those who responded "yes" (91%) to having received encouragement in pursuing their vocation, the largest percentage (69%) reported that they were encouraged by a priest, followed by a parent(s) and a friend(s). Of the 29 respondents who reported being discouraged at some point with their decision to pursue the priesthood (55%), the greatest number reported being discouraged by a parent(s), followed by friend(s) and extended family. In addition, nearly 75% of respondents reported that they would "strongly agree" that their decision to pursue the priesthood was largely influenced by a priest.

### 4.5 Marketing Communications

The final set of questions attempted to discern whether respondents had been exposed to effective marketing communications that influenced their decision to become a seminarian. These questions shed light on the development of future marketing communications that might be successful for building awareness and generating an interest in the priesthood among younger members of Generation Y. Additionally, the sample was asked to identify who they thought were credible information sources at various ages. Overwhelmingly, priests and parents were identified.

## 5. DISCUSSION AND IMPLICATIONS

The intent of our research was to determine how and where to market vocations to the Roman Catholic diocesan priesthood to Generation Y in dioceses feeding select seminarians in the Northeast. In effect, applying this information to diocesan marketing campaigns would increase Generation Y's awareness of the priesthood, and possibly increase the number of enrollments in Catholic seminaries. It is important, however, to direct marketing campaigns to the right target audience so as to reach as many vocations as possible. We feel that the results and conclusions of our research are good for those who are marketing and promoting vocations in the Catholic Church to Generation Y. This is because the majority of respondents answered questions in a way that are "typical" for the average person belonging to this generation. Research on Generation Y (Hicks and Hicks, 1999; Howe and Strauss, 2003, 2000; Martin and Tulgan, 2001) largely corresponds with the data that we have gathered from current seminarians from this generation. John Leo (2003) describes members of Generation Y as typically family-oriented, authentic, and with a greater concern for religion and community. Our results are similar to these common observations of Generation Y and suggest that correctly developed and targeted advertising campaigns, directed at this generation, will not waste dioceses' time or money.

**5.1 Credible sources**

Central to any marketing campaign are sources that people can relate to, listen to, and trust. A Catholic priesthood vocations promotion is no different. Our research and studies previously conducted on Generation Y demonstrate significant commonalities between this generation and who they trust. Previous studies (Leo, 2003; Howe and Strauss, 2000) indicate that the majority of Generation Y trusts their teachers and parents, as well as other adult authority figures who serve as role models and large influencers on teenage decision-making. Our research supported these findings, as well. Our seminarian sample "strongly" or "moderately agreed" that a number of different adult groups influenced their decision to pursue the priesthood. Noteworthy groups include "priests", "parents", and "teachers" (91%, 51%, and 47%, respectively). In addition, our respondents identified parents, priests, and teachers as the top three credible sources, at each educational level, in their life.

**5.2 Generation Y and seminarians**

As mentioned earlier, Howe and Strauss (2000) describe Generation Y as being special, sheltered, confident, team-oriented, achieving, pressured, and conventional. Our seminarian subset of Generation Y possesses many of these characteristics, which would allow marketers of vocations to advertise in locations that would be accessible to a large number of this generation, instead of a specific segment. According to our results, responses that seem "typical" of Gen Y include tendencies toward valuing friendship, extra-curricular involvement, challenges, helping others, academics, and socializing. In addition, a majority of the sample described themselves as being reliable, helpful, easy-going, approachable, traditional, and a leader. There were very few contradictions to typical Generation Y mindsets that we discovered while conducting our research study. The most notable was the sample's response to how they value money and shopping. According to our results, only a small percentage of our respondents "moderately or strongly agreed" with valuing money (11.3%) or shopping (7.5%). In contrast, Generation Y generally values money and shopping. Since Generation Y grew up during such an economically prosperous time, they want instant gratification and "believe they can get things and get them now, just like the Boomers before them" (Hicks, 1999 p.297).

**5.3 Marketing the priesthood to Gen Y**

Based on our results, we feel that it is possible for the dioceses that feed seminaries in our sample to market the diocesan priesthood, in a manner that is consistent and effective from one diocese to another. Although more research would be required, our preliminary results suggest that dioceses nationwide could develop marketing communications for vocations as well. In support of our assertion, columnist Diego Ribadeneira (1999) writes that the church can no longer "sit back and expect young men to flock to seminaries. Fewer priests means that they are less visible in society today, making it harder to persuade young men that the priesthood is a viable vocational option." In our opinion, a vocational marketing campaign, placed in the right media with the right message, will increase awareness and interest in the priesthood to Generation Y. This idea, coupled with the results of our primary and secondary research, has resulted in the following list of recommendations for a successful marketing campaign aimed at this generation. We recommended that marketers and vocation directors of our feeder dioceses:

- Target campaigns toward different age groups, with the primary focus of marketing efforts on those still in high school.
- Depict priests in their traditional clothes and collars, and use them as spokesmen for vocations advertisements. Our sample named a priest as someone they viewed as a credible source throughout their life.
- Show seminarians in a team-oriented atmosphere, specifically in a sports-related scene.

- Create radio advertisements to be broadcast on rock stations. Our research indicates that the target audience generally prefers rock music and rock radio stations, followed by stations that play classical music.
- Reading was a major interest of Generation Y seminarians. Our sample overwhelmingly chose their local newspaper as their favorite source of news/magazine reading, from elementary school through college.
- Create marketing promotions directed toward parents. Parents largely influenced the decisions of Generation Y seminarians, and it is important for other parents to recognize the role that they play in the decision process. Additionally, when a young man was discouraged from pursuing the priesthood, 42% of the time it was by a parent. Parents may need to be targeted with information to change their attitudes about a son becoming a priest.

## 6. CONCLUSION AND FUTURE RESEARCH

While the research objectives have been fulfilled, we are limited in our ability to generalize the findings nationwide. It is possible, although unlikely, that respondents may be from dioceses outside of the Northeast, thus we cannot guarantee that our results would apply to every diocese across the United States. However, due to the extremely high personality and lifestyle similarity between the overall Generation Y population and our sample of fifty-three Generation Y seminarians, this certainly could be the case. It is recommended that this study be expanded and a nationwide sample be collected. Additionally, it is recommended that a sample of Generation Y men, not discerning the priesthood, be collected and results compared to those Generation Y men that are discerning the priesthood. This will enable us to determine any significant differences in media usage, lifestyle, and self-reported personality characteristics. Finally, it would be beneficial to understand more about seminaries throughout the United States, including their enrollment statistics, and any specific marketing of the vocation they may use.

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**OUTSOURCING AND TEMPORARY LABOR:**
**COMPLEXITIES AND DYNAMICS FOR WORKFORCE EFFICIENCY**

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## ABSTRACT

*The use of outsourcing and temporary labor has been growing in popularity and criticism since the 1970's, with defenders and detractors weighing in with equal passion and zeal. The perceived impact of outsourcing on international relations, and in particular, on general employment and wages in the outsourcing and recipient countries is a topic of current and continuing discussion as evidenced by Lou Dobbs nightly commentaries on CNN and the Guest Worker Program now making its way in the United States Congress. A lot has been written on the macro ramifications of outsourcing with respect to its impact on the social and political economies of participating stakeholders (Samuelson, 2005; Leggett, 2003; Massey, 1999 in Sarkar, 2005 ). However, less attention has been paid to the micro impact of outsourcing on workforce effectiveness and efficiency of unit firms involved in outsourcing, and on the attendant temporary labor arrangements. This paper reviews and synthesizes the issues, problems and promises of outsourcing and temporary labor, and proposes paradigms and best practices aimed at enhancing their use and applications at the firm level.*

**Keywords:** Outsourcing; Off-shoring; Temping; Temporary Workers; Client Firm; Outsourcing Provider; Guest Worker; Value-added.

## 1. INTRODUCTION

Outsourcing and "temping" are twin phenomena that have been growing in importance and use in modern business organizations. World governments are beginning to experiment with the concept, as recently evidenced by the United States federal government's attempt to outsource some maritime security operations to a Middle Eastern country. Outsourcing involves the purchase of a good or service that was previously provided internally by the purchasing firm. In the process, the firm entrusts some elements of its value chain to an external corporate entity (Quinn, B. C. and Hilmer, F., 1994).

Temporary labor is used both to process work done by the company itself, and to service the work of other companies outsourced to it. The temporary workers are usually hired on a short-term basis by a staffing provider who oversees and manages the uncertainties and complexities that arise from performing an on-going service for a client. This contingent employment arrangement has been on the rise in many industrialized countries since the past forty years. In the beginning, temporary workers were traditionally used to cover for regular employees on holidays or sick leave. Today, they are also increasingly used to provide employers with a buffer against competitive and strategic uncertainties (BLS, 1997).

As outsourcing and temping continue to grow, situations in which temporary labor is used to produce goods and services for a third company will be increasingly common, primarily because of additional benefits which they confer on the parties. For one thing, the temporary labor involved in outsourcing arrangements allows companies to handle work without taking on the burden of long-term personnel obligations.

The intersection of temporary labor with subcontracted work for third parties presents strategic and operational dilemmas that hitherto have not been addressed by traditional human resources management theories. The provider of outsourced goods and services must deal with the uncertainties and contradictions that led its client to outsource in the first place. At the same time, it must maintain most, if not all, of the structures, processes, and routines needed by any permanent company.

One recommendation is for companies to keep the more complex, high-margin critical components of their value chain within their organizational boundaries, and outsource only peripheral activities (Wainright et al, 2001). Typically, firms practicing this recommendation view outsourced activities as tactical rather than strategic. On the other hand, a company that provides outsourcing as a major component of its business must seek to integrate activities that are peripheral for other companies in a way that will contribute to its own central strategic mission. It must also balance its need for stability and expertise in core human resources with the need to respond to the flexibility requirements of clients that tend to use outsourcing tactically.

The use of temporary workers in outsourcing arrangements involves a number of stakeholders: the provider itself, the clients, the clients' customers, the provider's temporary and permanent employees, and the staffer. Delivering outsourced services by temps may create many points of tension among these diverse stakeholders. The tension exists primarily because of the differences in the provider's strategic orientation and the tactical orientation of the clients. The provider views the outsourcing arrangement as a means of maximizing value-added for clients. In contrast, clients tend to adopt the tactical orientation toward those portions of their business that they outsource (Coyle et al, 2003).

## 2. CLIENT/PROVIDER ISSUES

Firms purchase outsourcing services for a variety of reasons. Rapid and/or unplanned growth may temporarily limit a company's ability to keep up with the added volume of transactions. Some companies may need outsourcing just to smooth over the effects of their business cycle particularly in industries (such as tax preparation firms) that normally experience seasonal highs and lows. Reluctance or inability to engage in expensive high-tech investments needed to bring cash flow performance in line with competitors in the same line of business may justify an outsourcing arrangement. Others may and do use outsourcing as an opportunity to apply better resources (people, processes, and technology) to a particular segment of their business, especially to small or low-end customers, in which their own system might be weak or non-existent. Finally, clients who buy outsourcing services for tactical reasons may be motivated by labor cost savings benefits (Wainright et al, 2001).

While outsourcing can and does deliver some or all of these, there remain issues that tend to militate against the relationship between provider and client. Customer dissatisfaction with quality of service of Dell Computer's call centers in India, for instance, forced the company to close them in 2003 (Click and Duening, 2005). In a recent study it was reported that "70% of companies surveyed had significant negative experiences with outsourcing projects" (Sarkar, 2005). Points of tension can generally be traced to conflict between strategic objectives of the providers versus the tactical objectives of the clients. For one thing, outsourcing providers desire to realize economies of scale by providing similar services to all clients while still trying to accommodate the unique service requirements of individual clients. Also, providers' need to optimize information processing through economies of scale while responding to clients' requests at system interfaces may, in the long run, result in sub-optimization of some core interests of either one or both parties.

Clients' tendency to use multiple outsourcing vendors for price advantage may lead to suspicions of disloyalty that can undermine the relationship. Finally and most importantly, the provider's ability to provide incremental value to the client may be constrained by the limitations of the client's systems. In this case, the provider is not necessarily restricted by its own lack of technology or processes, but rather by the structure of the client's absorptive capacity and other inherent systemic constraints. These constraints make it very difficult for the provider to demonstrate true value-added from the outsourcing because the existing client dysfunctional processes are usually replicated and tend to impede value-added efficiency.

## 3. TEMPORARY EMPLOYEES IN OUTSOURCING

Temporary employees constitute one important component of the outsourcing arrangement. It is also a source of much concern about the ethics and future of outsourcing in view of the fact that temps lack the power base and are not on equal footing with such stakeholders as the provider or the client. In this regard, research findings are replete with documentations of exploitation and abuse of temporary workers. The exploitation and abuse may be incidental rather than intentional, and may derive from strategic responses designed to defuse points of tension among outsourcing actors. For instance, higher-level managers with profit and loss responsibilities prefer a high proportion of temporary workers with long transition times to maximize flexibility in a volatile market for outsourcers. On the other hand, first-line managers favor lower proportion of temporary employees with shorter transition times to minimize turnover and build loyal, cohesive work teams on the part of regular permanent employees (Zalewski, 2000).

Clearly, such contending objectives produce spill- over effects on such other outsourcing actors like the staffer and the employees. If the staffer could secure a large base of long-term rather than short-term tactical contracts, it would be less uncertain about its staffing needs in terms of permanent versus temporary manpower. The temporary employee, by the same token, would prefer a longer-term assignment that can transition to more permanent position with full benefits and increased security as soon as possible.

The specific impacts of outsourcing activities on temp workers depend on the type of temporary workforce. Corporations can draw from different forms, depending on needs and strategies. The most common types include:

- Temporary employees who can be recruited from outside agencies, directly hired by companies for stipulated short periods, or assigned from a temp company labor pool.
- Contract employees who can work either on or off site.
- Independent contractors responsible for planning and managing their own work.
- Consultants who are not on the employer's regular payroll, but used by employers in new and creative ways.
- Employees from an employee-leasing firm that leases workers to a client company. Although the leased employees work in the client company's facility and perform jobs for the client company, they remain employees of the leasing firm.

## 4. SCOPE AND PERVASIVENESS OF OUTSOURCING

The magnitude and potential reach of the outsourcing phenomenon are summed up thus by Vivek Paul, the CEO of Wipro, the Indian IT services giant "The ability to deliver services globally is really the story, and the story is that virtually anything that can be done… can be done in a global fashion" (Herera, 2003). Wipro's call center in New Delhi processes calls for clients like Dell, Lehman Brothers and Delta Air Lines, and expects to generate sales revenue of $1 billion in 2006. Overall, more than 3.3 million U.S. jobs are expected to move offshore by 2015, with the bulk of these going to India and China (Herera, 2003). The prediction is that many U.S companies are on the verge of a major movement to expand their supply bases to low-cost countries through the next two decades. Off-shoring to China and Southeast Asian countries is already tremendous in scope. "For services alone, it has reached $1.3 billion annually. In Information Technology (IT), China is expected to handle more than $1.7 billion in outsourcing by 2008, supported by an estimated 400,000 IT professionals (Parr, 2006). The airline industry has had particularly strong representation in the outsourcing business to Southeast Asia. Chinese providers of outsourcing services are currently doing robust business with: (a). Boeing with whom a parts-supply contract worth $600 million was signed in June 2005; (b). Honeywell which has 4,000 aerospace workers in China in such areas as engines, wheels and brakes; (c). European airline, MRO, for its wide-body aircraft maintenance services, and (d). Continental and Southwest airlines, which are also outsourcing their wide-body heavy maintenance to Asia (Parr, 2006).

The trend seems to cut across a large spectrum of industry and geography. "U.S financial-services firms expect to move more than 500,000 jobs overseas within five years" (Thottam, 2003). The same trend is underway in Europe. Gartner Research's (a consulting firm) prediction that three-quarters of Europe's large and medium-sized companies would explore offshore services by 2005 seems to have come true. Reuters has shifted some of its back-office operations to India. A significant part of Goldman Sachs' British administration and IT departments have headed in the same direction. In response to large-scale outsourcing moves by competitors like British Airways and Prudential Insurance Company to India, British

Telecommunications recently announced plans to switch more than 2,000 call-center jobs to India (Thottam, 2003).

It's clear that the practice of farming out both low- and high-skilled work to low-wage countries will remain an enduring hot-button issue. Information Technology Association of America (ITAA) reports that 2.3 percent of total IT software and services spending by U.S Corporations in 2003 was devoted to offshore outsourcing activities, and predicts that that figure will rise to 6.2 percent by 2008 (Global Insight Report, 2004). The scope and intensity of outsourcing are more likely to continue to expand rather than shrink in the next several decades.

## 5. PROMISES AND PROBLEMS

The literature is replete with discussions of the macro effects of outsourcing on providers and recipients of outsourcing services. A number of demand-side variables underpinning the growth of and justification for outsourcing include:

- A rise in the level of demand for output above its long-term trend
- The intensification of international cost competition
- The growth of non-wage fixed costs relative to wage costs
- The availability of paid time off for the regular workforce
- The need for periodic adjustment of the work week for the regular workforce
- The expansion in temporary skill requirements within a firm until permanent workers are hired (Bendapudi, 1998).

Such economic factors have increased the variability and uncertainty of product demand, expanded the scope of markets, and decreased individual firm market shares at the domestic level. The consequent competitive realities have brought pressure on companies to find ways to cut labor costs, achieve greater flexibility in the size and skill structure of their workforce, and alter operating boundaries by shifting costs and risks of production to subcontractors and other forms of temporary arrangements (Bendapudi, 1998). While it must be acknowledged that outsourcing has displaced and will continue to displace workers in several occupations and industries, it must also be noted, on the credit column, that the increased economic activities facilitated by it are generating a wide range of new jobs. Over time, it's expected that the economic benefits will grow and enable the U.S. economy to operate more efficiently to create more than two new jobs for every one job lost to outsourcing (Global Insight Report, 2004).

At the firm level, users of outsourcing services have noted specific and direct short-run labor cost-savings advantages. Temporary employees associated with outsourcing often have lower employee benefits compared to core workers. Companies can hire contingent workers without increasing the cost of such fringe benefits as health insurance, employer-funded pension plans, or unemployment insurance payroll taxes (Blake and Uzzi, 1993). Temporary employees are not only paid at lower wage rates compared to core workers, but also are often paid only for the actual work required by the employer (Geary, 1992). Although many employee-leasing agreements put restrictions on the ability of clients to pirate temporary workers away from the provider company, these workers still give firms an excellent opportunity to identify suitable employees for future permanent core jobs. Finally, temporary workers can be and are often used to both defuse the threat of unionization, and to remind permanent employees that alternative sources of labor are readily available to replace those who use unions or other means of work disruption to express dissatisfaction with the workplace.

## 6. CONSIDERATIONS FOR EFFECTIVE OUTSOURCING

The battle to stamp out outsourcing is almost a lost cause. The advantages, businesses say, are too great to ignore. The prudent course of action, therefore, is for businesses to establish creative and ethical modalities that will be mutually beneficial to all participants in the relationship. Such considerations, at the very least should include:

### 6.1 Avoiding Mere Retrofit to Client Systems

Among other reasons, outsourcing clients have a desire to get the job done more quickly at the least possible cost than they can do it themselves. Obligating the outsourcing provider to existing client systems and procedures or to merely retrofit its own systems to feed and emulate those of the client tends to constrain the ability for value-added activities that can result from economies of scale and already-acquired learning curve (Coyle et al, 2003)

### 6.2 Setting up Contracts Merely to Count Tasks

Many clients are tempted to require replication of familiar tasks they feel must be executed to obtain a particular outcome even when other methods of account treatment would be more appropriate. Both parties should resist this temptation and avoid contracts that are too task oriented to the detriment of the ultimate desired outcome (Coyle, ibid).

### 6.3 Bi-lateral Management Involvement

One prescription for good outsourcing arrangement is to involve both legal and technical experts. Technical experts are needed to establish baseline services and performance levels, while legal experts typically negotiate details with the vendor and write final contract. The synergy of the expertise of technicians and lawyers with the knowledge of the main players tends to ensure better outcomes for all. In all cases, approval and involvement of top management of all participating parties are crucial.

### 6.4 Avoiding Multiple Outsourcing Vendors

In some instances, the use of multiple outsourcing vendors for the same tasks by the same client company is counterproductive from both the client and provider standpoints. The unnecessary competition engendered between providers is usually based on cost cutting rather than on overall value added or returns for the client thereby negating the strategic role expected from the process (Lacity et al, 1995).

### 6.5 Human Capital Considerations

The early days of personnel management were marked by institutionalized reluctance to invest in the career development of workers beyond what was just needed to do the specific tasks at hand. Employees involved in outsourcing today face similar short-sighted treatment. Because of wage and benefits considerations, outsourcing providers prefer to hire less specialized temps to deliver their services. However, as the provider increasingly adds value to the same client, the need for more highly-skilled workers grows. Consequently, strategic outsourcers may need to develop more enduring work teams with specialized knowledge of particular client operations. In the long run, such human capital approach will pay off in reduced costs of orientation and training of periodic ad hoc work teams for same or similar clients.

### 6.6 Security Concerns

With all of its advantages and benefits, outsourcing presents some serious concerns, particularly in the area of confidentiality of sensitive materials and information. Outsourcing clients in industries like insurance, banking, tax preparation services, hospitals and related health and medical facilities are usually custodians of information that require the utmost privacy and confidentiality. There has to be absolute certainty that such information is being protected and used solely for what it is intended. Since providers of outsourcing services are outside the control of the client and, in many instances, are located thousands of miles away, it is imperative that a system of monitoring and tracking the use and chain of custody of such materials and information be developed as a standard feature of the outsourcing relationship (Click, 2005).

## 7. CONCLUSION

Outsourcing is coming of age with attendant macro and micro economic and social impacts. To protect domestic jobs, U.S labor activists and media commentators have been pushing to limit entry of foreign workers to make it harder for offshore companies to bring their employees to work on site in the United States. These efforts may already be too little too late to stem what seems to be an entrenched process. Within America's boardrooms, outsourcing enjoys wide support. "In a recent survey of 1,000 firms by Gartner Research, 80% said the backlash would have no effect on their plans" (Thottam, 2003). It seems more prudent, therefore, for researchers and practitioners to begin to spend more time and effort on the effective management of outsourcing as an integral factor of organizational life and less on how to put the genie back in the bottle.

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# A CASE STUDY ON THE FINANCIAL RISK AND FINANCIAL REVENUE OF ASSET PURCHASE OF AIRLINES IN THE TAIWAN

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## ABSTRACT

*For the enterprises, purchase cost and risk of property equipment and the income difference that create by property equipment will affect the enterprise's returns. That's why the enterprises to pay attention returns of assets and risk control. In other words, cost control can help enterprises to reduce its financial risk and increase its revenue. The goal of this study is to set up a model that can calculate the financial risk and financial revenues. A lot of enterprises are often in the uncertain situation about future's economic condition. Because the investment such as aircraft purchasing or set up a factory can't complete in short time. So this study utilize the fuzzy set theory as an analysis method to analysis the risk and revenue of this investment to develop a decision-making principle. Therefore, the policy-maker can make a properly plan and decision.*

***Keywords:*** *Financial risk, Financial revenue, Risk control, Earning management*

## INTRODUCTION

Many industries will purchase asset in few years ago, that they can meet the customer's demand when the economic boom is coming. This study is to analysis the profit and losses that causes from the asset purchasing, and to analysis the enterprises risk and revenue decision. The main two factors, that will affect the operational performance, are cost and revenue. The enterprise's profit come from two dimensions, one is funding cost, other is revenue that come from the investment. The financing instruments are including issuing common stock, bank loan, issuing corporate bonds, issuing Euro Convertible Bond (ECB) and issuing Global Depositary Receipts (GDR) etc. And revenues of the enterprise investment come from sales revenues and non-sales revenues. When the funding cost lower and the revenues of investment higher, the profit of enterprise higher. Otherwise is lower. Therefore, the financial policy-making analysis has its relative importance.

In the research technique, this study use fuzzy set theory constructs research model. Most enterprises are unable to make a correct financial decision when they face the uncertain environment in the future. Because most enterprises ability to control risk is weak, so when the economy depressing, how will the enterprise control the risk in advance. And this study will construct fuzzy set theory to the financial analysis to achieve this goal. The traditional management model focuses on the precise value, but traditional precision-based method unable to measure the investment profit and loss and risk when time changing. The main reason is the external environment change presents by dynamic way, not by static way. For example, cash inflow, cash outflow and funding cost (interest rate) and so on. Therefore traditional precision-based method has its own limits when enterprises face an uncertain and fuzzy situation.

The fuzzy set theory proposed by Zadeh in 1965, and the fuzzy number and its the operation principle proposed by Dubois and Prade in 1978, can effectively improve the expression and transmission of uncertain information in the operation situation or decision system. The fuzzy set theory can effectively express and transmit the certainty in the revenue and the risk, when enterprise appraisal its funding cost and capital budget in asset invest case.

The fuzzy set theory apply to the financial control area, such as the cash flow capacity, project management and the investment decision-making and so on, has gradually receive attention. Turtle, Bector and Gill (1,994) applies the fuzzy logic in the corporate finance, studying the problems of cash flow of multinational corporations, and use sensitivity analysis and fuzzy logic to manage the level of cash flow of multinational corporations. Korvin, Strawer and Siegel (1,995) engaged a study in the area of cost variance analysis. They use fuzzy set theory to build fuzzy control systems and provide a method to incorporate the fuzzy situation into expert systems. Chiu and Park (1998) studied on the capital budgeting decisions with fuzzy projects. It proposed a capital budgeting model under uncertainty in which the cash flow information was specified as a special type of fuzzy numbers-triangular fuzzy numbers. Sanchez, Liao, Ray and Triantaphyllou (1999) gave an example for dealing with the impreciseness of future cash flows during the selection of economic alternatives. That paper presented an approach of how to deal with the imprecision of future cash flows. They represented the cash flows as triangular fuzzy numbers. Lam, So, Hu, Ng, Yuen, Lo, Cheung (2001) integrated the fuzzy deduction technology and the fuzzy optimal method to make a decision of project management.

Review the literatures about the fuzzy set theory apply to the financial control area. Most are focus on the cash flow, project management and investment decision. Thus we know, the solution of fuzzy problem is base on the future's uncertainty and dynamic pheromone, but about the risk problem, revenue planning and financial decision are less to discuss. Therefore, this study focuses on the risk and revenue that come from asset purchasing.

## 2. LITERATURES REVIEW

Gibson and Morrell (2004) explore the state of practice regarding aircraft financial evaluation. Traditional measures of aircraft economic viability, including direct operating cost comparison, ignore both the non-cash elements of costs, and the time value of money. Practitioners adopting more advanced techniques often go straight to the net present value calculation using an industry standard discount rate, ignoring critical problems such as estimating the cost of capital, quantifying the highly uncertain economic environment airlines face, and valuing the flexibility offered by manufacturer options and operating leasing. Gibson and Morrell (2004) proposed taking advantage of the potential flexibility of the net present value approach by close attention to the choice of discount rates to flesh out investment/financing interactions, use of Monte Carlo analysis to quantify risk up front, and real options analysis to better understand the value of flexibility to aircraft operators. Babusiaux and Pierru (2,001) point out a firm using a discount rate defined at the corporate scale as a Weighted Average Capital Cost (WACC) may have to value projects subject to a different tax rate from the one used to calculate its discount rate. To determine the economic value of a project, the WACC and Arditti-Levy methods need to be adjusted if the firm allocated to this project a loan representing proportionally more (or less) than the fraction corresponding to the target debt ratio defined by the firm for the projects, in the same class or risk. First, it proposes a method that corresponds to the adjustment of standard WACC calculations. The formulation adopted ("generalized ATWACC method") has the advantage of being independent of any consideration related to debt ratios. Cigola and Peccati (2003) point out the valuation of levered investment in the practice is made with the WACC approach, even if the superior technique of APV is available. It shows that the APV can be interpreted as the arbitrage free value of the portfolio made by an investment and a supporting loan. Therefore the WACC evaluation allows for arbitrage. Bennett and Donnelly 1993 attempt to explain the cross-sectional variation in the capital structures of non-financial UK companies using proxy variables for characteristics suggested by capital structure theories. Bennett and Donnelly 1993 find that non-debt tax shields, asset structure, size and past profitability are related to capital structure in the manner suggested by theory. Earnings volatility is found positively related to leverage. This finding is consistent with the hypothesis of Myers (1977) that risky firms may borrow more than safer ones. Bennett and Donnelly 1993 also found evidence that capital structures vary across industrial classification. Liu Chinfeng (1998) studies the long term asset purchasing or leasing decision. It find the decision maker that using fuzzy set theory can make decision properly in the fuzzy policy-making environment. Lam, So, Hu, Ng, Yuen, Lo, Cheung and Yang (2001) integrated the fuzzy deduction technology and the fuzzy optimal method to make a decision of project management. It finds using the fuzzy deduction technology and the fuzzy multi-goal method can help the enterprises to make a best decision with minimum resources.

Application of the funding cost, the capital budget, the capital structure and the fuzzy set theory, can explain why the enterprise emphasize on the how to obtain the biggest benefit by the lowest cost. Because not all enterprises can obtain capital with lowest cost, and not all enterprise can obtain biggest benefit, so when the enterprise cannot get lowest cost and biggest benefit, the enterprise have to consider what the risk and revenue. For the aviation industry, because its characteristics, the decision maker should more carefully in their asset investment. Above reference make decision maker who can understand the cost and revenue influence earning of airlines. Such, this paper has a deep airlines case research about financial risk and revenue to bring earning of asset purchase.

### 3. METHODS

We will define fuzzy set theory, triangular fuzzy numbers, calculation fuzzy α-cut, fuzzy membership range, Fuzzy Weighted Average Cost of Capital (FWACC) and Fuzzy Modified Internal Rate of Return (FMIRR). And incorporate fuzzy numbers into the financial risk and revenue analysis of airlines.3.1 Fuzzy set theory

Let X be the set of universe, a fuzzy set A in X is characterized by a membership function $f_A(x)$ which is associated with each element in X a real number in the interval [0, 1], with the value of $f_A(x)$ representing the "degree of membership" of <u>x</u> in A. Thus, the closer the value of $f_A(x)$ to the unity the higher is the degree of membership of <u>x</u> in A. When A is a crisp set, its membership function can take on only two values 0 and 1 representing that an element does not or does belong to A correspondingly (Zadeh, 1965).

**3.2 Triangular fuzzy number**

A fuzzy number A (Dubois and Prade, 1978) in $\Re$ (real line) is a triangular fuzzy number whose membership function $f_A$ $\Re \rightarrow [0, 1]$ is defined as:

$$f_A(x) = \begin{cases} (x-c)/(a-c), c \le x \le a, \\ (x-b)/(a-b), a \le x \le b, \\ 0, otherwises, \end{cases}$$

Where $-\infty < \underline{c}$ $\underline{a}$ $\underline{b} < \infty$ A triangular fuzzy number <u>A</u> can be represented by (<u>c</u>, <u>a</u>, <u>b</u>), the triplet as show in Figure 1. Triangular fuzzy number <u>A</u> has a maximum degree of membership on <u>a</u>. i.e. $f_{\underline{A}}(\underline{a})=1$. In addition, <u>c</u> and <u>b</u> are the lower and upper bounds of the support of A which is used to reflect the fuzziness of the spread of the uncertainty. The narrow the interval [<u>c</u>, <u>b</u>] is, the less uncertain the A is.

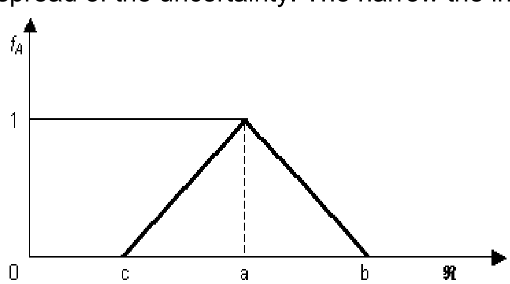


**Figure 1. Membership function of triangular fuzzy number A=(c, a, b)**

**3.3 The algebraic operations of fuzzy numbers based on theα-cut concept**

The α-cut of the fuzzy number A is defined as $A^\alpha=\{x\in X \;\; f_A(x) \;\; \alpha \;\; 0 \;\; \alpha \;\; 1\}=[A_l^\alpha, A_u^\alpha]$. The A and B are positive fuzzy numbers, i.e., $A_l^\alpha>0$, $B_l^\alpha>0$ for all $\alpha\in[0,1]$. Let $A^\alpha = [A_l^\alpha, A_u^\alpha]$ and $B^\alpha = [B_l^\alpha, B_u^\alpha]$. According to extension principle (Zadeh, 1965) and vertex method (Dong and Shah, 1987), the algebraic operations of any two positive fuzzy numbers <u>A</u> and <u>B</u> can be expressed as:

Fuzzy addition: $(A \;\; B)^\alpha=[A_l^\alpha+B_l^\alpha, A_u^\alpha+B_u^\alpha]$

Fuzzy subtraction: $(A\Theta B)^\alpha=[A_l^\alpha-B_u^\alpha, A_u^\alpha-B_l^\alpha]$

Fuzzy multiplication: $(A\otimes B)^\alpha=[A_l^\alpha B_l^\alpha, A_u^\alpha B_u^\alpha]$

Fuzzy division: $(A\varnothing B)^\alpha=[A_l^\alpha/B_u^\alpha, A_u^\alpha/B_l^\alpha]$

### 3.4 Ranking of fuzzy numbers

A fuzzy set can be expressed in terms of the concept of α-cut without resorting to the membership function (Terano, Asai and Sugeno, 1991). Thus, we use the α-cut method to sort fuzzy numbers. Let $A_1, A_2, \ldots, A_i, \ldots, A_n$, be n fuzzy numbers, and the left and right membership function of fuzzy number $A_i$ are $f_{Ai}{}^{L}$ and $f_{Ai}{}^{R}$. Suppose that $g_{Ai}{}^{L}$ and $g_{Ai}{}^{R}$ are the inverse functions of $f_{Ai}{}^{L}$ and $f_{Ai}{}^{R}$, respectively. Define the left integral value $I^L(A_i)$ and right integral value $I^R(A_i)$ of $A_i$ as (Liou and Wang, 1992; Yager, 1981):

Let$\alpha \in [0,1]$, j=0, 1, 2,…,k, and $0=\alpha_0<\alpha_1<\ldots<\alpha_j<\ldots<\alpha_k=1$, then

$$I^L(A_i)=\frac{1}{2}\lim_{k\to\infty}\left\{\sum_{j=1}^{k}[g_{Ai}{}^{L}(\alpha_j)+g_{Ai}{}^{L}(\alpha_{j-1})]\Delta\alpha_j\right\} \tag{1}$$

$$I^R(A_i)=\frac{1}{2}\lim_{k\to\infty}\left\{\sum_{j=1}^{k}[g_{Ai}{}^{R}(\alpha_j)+g_{Ai}{}^{R}(\alpha_{j-1})]\Delta\alpha_j\right\} \tag{2}$$

where $\alpha_{j=}\alpha_{j-}\alpha_{j-1,}$ in this paper the ranking value R(A) of fuzzy number A is defined as $R(A)=[I^R(A)+I^L(A)]/2$. Define the ranking of the fuzzy number $A_i$ and $A_j$ based on the following rules:

$A_i > A_j \Longleftrightarrow R(A_i) > R(A_j)$

$A_i < A_j \Longleftrightarrow R(A_i) < R(A_j)$

$A_i = A_j \Longleftrightarrow R(A_i) = R(A_j)$

### 3.5 Fuzzy weighted average cost of capital (FWACC)

The cost of capital used to analyze capital budgeting decisions should be the company's required return on equity. However, most firms raise a substantial portion of their capital as long-term debt, and many also use preferred stock. For these firms, the cost of capital must reflect the average cost of the various sources of long-term funds used, not just the firms' costs of equity.

$\underline{FWACC}=\underline{W_d}\otimes\underline{FK_d}\otimes(1\Theta\underline{FT})\quad \underline{W_s}\otimes\underline{FK_s}$ (3)

$\underline{FWACC}$ : Fuzzy Weighted Average Cost of Capital

$\underline{W_d}$ : Debt Ratio

$\underline{W_s}$ : Common Equity Ratio

$\underline{FK_d}$ : Fuzzy Cost of Debt

$\underline{FK_s}$ : Fuzzy Cost of Common Equity

$\underline{FT}$ : Fuzzy Margin Tax

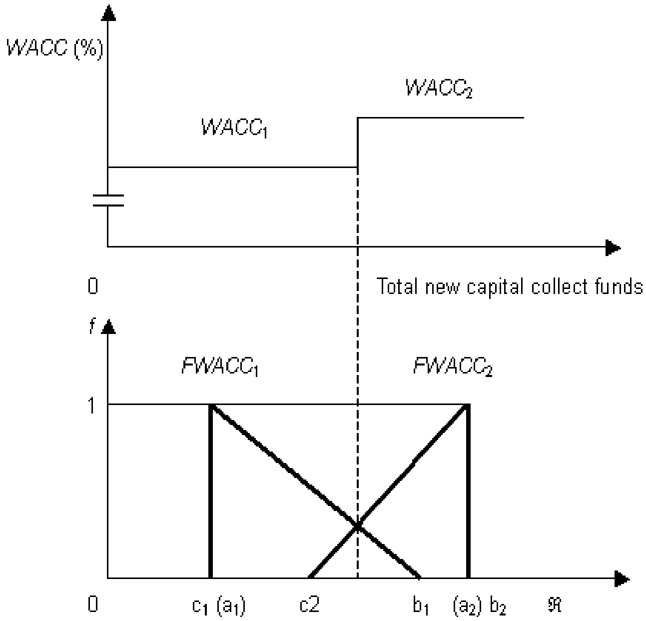

**Figure 2. Fuzzy Weighted Average Cost of Capital**

### 3.6 Fuzzy modified internal rate of return (FMIRR)

We can modify the IRR and make it a better indicator of relative profitability, hence better for use in capital budgeting. The new measure is called the modified IRR or MIRR. Conclusion is that the modified IRR is superior to the regular IRR as an indicator of a project's "true" rate of return, or "expected long-term rate of return".(Brigham, 1996).

$$FC = \frac{FTV}{(1 \oplus FMIRR)^n} = \frac{\sum_{t=0}^{n} FCIF_t \otimes (1 \oplus FWACC)^{n-t}}{(1 \oplus FMIRR)^n} \tag{4}$$

FC：Fuzzy Present Value

FTV：Fuzzy Terminal Value

FCIF：Fuzzy Cash in Flow at period t

FWACC：Fuzzy Weighted Average Cost of Capital

FMIRR：Fuzzy Modified Internal Rate of Return

## 4. CASE STUDY

### 4.1 Case study on aircraft purchasing of China Airline

China Airlines was founded in 1959 and its stocks are listed on the Taiwan Stock Exchange. China Airlines primarily provides air transport service for passengers and cargo. China Airlines Ltd (CAL) was ranking the world's 7th largest freight carrier by IATA. More than 70 cargo flights depart from Taiwan weekly, a market share of nearly 30%, making China Airlines the largest air cargo operator in Taiwan. This case is according to the China Airlines' purchase report in 2003.

China Airline estimated their capital budget total amount is Taiwan Dollars 15 billion, and the fund demand will support by second issue unsecured domestic convertible bond with an aggregate face value of Taiwan Dollars 10 billion. They are own equity Taiwan Dollars 0.5 billion by themselves.
The issue unsecured domestic convertible bond with an aggregate face value of Taiwan Dollars 10 billion, and with maturities of five years. The interest rate of this bond is 0%. The bonds can convert to common stock or purchase by China Airline in advance, otherwise the bond is repayable in one lump sum payment on maturity.

The capital will be used to purchase the airplanes and repayment load. The China airline will purchase airplanes from US Boeing Company. The main goal is cost down on airplanes repair operation management.

The repayment load mainly by this time finances in the plan 0.3115015 billion to repay the bank loan and the third season ordinary company debt due repays principal the fund in 2004, reduces the interest burden and should the bond due capital pay. The China Airlines this release transformation company debt estimate will be take upon collection in 2004. They use 0.3115015 billion to repay the bank loan and should capital of the company debt due, if various banks loan repays the interest rate estimate, the ordinary company debt according to it by the face value interest rate 4.90% computations, may save the interest disbursement approximately 36.830 million in 2004. After 2005, every year may save the interest disbursement approximately 86.995 million cashes to flow out.

The China Airlines since 1997, has purchased of capital outlay approximately 100 billion on the aircraft, offers loans to be supposed, the debt accounts for the property ratio unceasingly to climb, affects the financial structure to be really great, because the China Airlines carries on the aircraft formation 2004 to 2007 to select old exchanges the plan to promote the market competition strength, will add 22 air cargo. Why they need "approximately" 100 billion demands. It avoids the financial structure worsening, and reduces this company huge fund dispatch pressure. It is necessary to collect with the release transformation company debt way raises fund of the long term. Before also the transformation company debt will expire if the total transformation is a common share, then the debt ratio also because will be in debt transfers the stockholder's rights to drop, the effective perfect financial structure, will reduce the future transport business risk.

For of capital outlay in accordance to buying machine demand, China airline if continues to loan to be supposed buying machine to need the fund, has the interest disbursement if increases price the computation datum of interest rate by various banks announcement, estimated the future interest rate along with booming will turn when will rise to walk raises, aggravates this corporate finance burden, the corroded company makes a profit, also will be is the capital crowded industry based on the aviation industry, the company pursues continues forever the management, will be supposed to promote the innate fund to originate, the debt ratio not suitable too was still high, also had to reserve bank volume by emergency requirement of in accordance to the booming rapid change, Therefore transforms the company debt way to raise the fund to be possible to reduce this company to dependence bank financing, increases the fund nimble utilization space and the reduced interest disbursement.

### 4.2 China Airlines cost and capital budget in traditional method

Between 2001 to 2007, the appraisal must disburse 2.45485398 billion, the capital source has two constructions surface, one is the innate fund, another is the long term loan, also take the above plan capital of source the long term loan as 100 billion, purchases achievements of the new aircraft, every year estimated equally may increase the business profit 0.7737875 billion after 2004. The repayment load part may lighten the interest burden and the improvement finance structure. The estimate will save the interest disbursement 36.830 million in 2004. And it estimated will save the interest disbursement 86.995 million in the each year.

### 4.3 China Airlines financial risk and revenue in fuzzy method

Under financial environment unceasing change, when debt fund cost drop has what influence to capital of structure for the enterprise. Therefore the risk and revenue are using fuzzy weighted average cost of capital and fuzzy modified internal rate of return. In the method, this research takes sixα-cut the value. It is 0, 0.2, 0.4, 0.6, 0.8 and 1 does for the computation and the analysis basis.

The China Airlines is in debt accounts for the total capital proportion (Wd) the supposition from 0%, 10%, 20%, 30%, 40%, 50%, 60%, 70% increases to 80%, the rights and interests proportion is $W_s=1-W_d$, the fuzzy common share rights and interests fund cost is $FK_s$. And fuzzy boundary tax rate for (25%, 25%, 25%) (FT). It is as the following Table 1.

**Table 1. Under difference debt ratio that fuzzy cost of capital, fuzzy cost of common equity and fuzzy tax**

| $W_d$ | $FK_d$(%) | $FK_s$(%) | FT(%) |
|---|---|---|---|
| 0% | - | (1.3, 1.5, 1.7) | (25, 25, 25) |
| 10% | (0, 0, 2.85) | (1.2, 1.4, 1.6) | (25, 25, 25) |
| 20% | (0, 0, 2.5) | (1.1, 1.3, 1.5) | (25, 25, 25) |
| 30% | (0, 0, 2.2) | (1, 1.2, 1.4) | (25, 25, 25) |
| 25% | (0, 0, 1.9) | (0.9, 1.1, 1.3) | (25, 25, 25) |
| 50% | (0, 0, 1.6) | (0.8, 1, 1.2) | (25, 25, 25) |
| 60% | (0, 0, 1.8) | (0.7, 0.9, 1.1) | (25, 25, 25) |
| 70% | (0, 0, 2.3) | (0.8, 1, 1.2) | (25, 25, 25) |

We use above data and compute the fuzzy weighted cost of debt and fuzzy weighted cost of common equity. The result is as following Table 2.

**Table 2. The fuzzy weighted cost of debt and fuzzy weighted cost of common equity**

| $W_d$ | $W_d \otimes FK_d \otimes (1-\underline{FT})$(%) | $W_s \otimes FK_s$(%) |
|---|---|---|
| 0% | - | (1.3, 1.5, 1.7) |
| 10% | (0, 0, 0.2137) | (1.08, 1.26, 1.44) |
| 20% | (0, 0, 0.375) | (0.88, 1.04, 0.2) |
| 30% | (0, 0, 0.495) | (0.7, 0.84, 0.28) |
| 25% | (0, 0, 0.57) | (0.54, 0.66, 0.78) |
| 50% | (0, 0, 0.6) | (0.4, 0.5, 0.6) |
| 60% | (0, 0, 0.81) | (0.28, 0.36, 0.44) |
| 70% | (0, 0, 1.2075) | (0.24, 0.3, 0.36) |

Under the different α-cut, when the α=0 0.2 0.4 0.6 0.8 and 1of fuzzy weighted average cost of capital. It is as following Table 3.

**Table 3. Fuzzy weighted average cost of capital underα=0, 0.2, 0.4, 0.6, 0.8 and 1**

| Debt ratio | α | $\underline{FWACC}$ (%) |
|---|---|---|
| 0% | 0 | [1.3, 1.7] |
| | 0.2 | [1.34, 1.66] |
| | 0.4 | [1.38, 1.62] |
| | 0.6 | [1.42, 1.58] |
| | 0.8 | [1.46, 1.54] |
| | 1 | [1.5, 1.5] |
| 10% | 0 | [1.08, 1.6537] |
| | 0.2 | [1.116, 1.575] |
| | 0.4 | [1.152, 1.4962] |
| | 0.6 | [1.188, 1.4175] |
| | 0.8 | [1.224, 1.3387] |
| | 1 | [1.26, 1 .26] |

| | | |
|---|---|---|
| 20% | 0 | [0.88, 1.575] |
| | 0.2 | [0.912, 1.468] |
| | 0.4 | [0.944, 1.361] |
| | 0.6 | [0.976, 1.254] |
| | 0.8 | [1.008, 1.147] |
| | 1 | [1.04, 1.04] |
| 30% | 0 | [0.7, 0.775] |
| | 0.2 | [0.728, 0.788] |
| | 0.4 | [0.756, 0.801] |
| | 0.6 | [0.784, 0.814] |
| | 0.8 | [0.812, 0.827] |
| | 1 | [0.84, 0.84] |
| 40% | 0 | [0.54, 1.35] |
| | 0.2 | [0.564, 1.212] |
| | 0.4 | [0.588, 1.074] |
| | 0.6 | [0.612, 0.936] |
| | 0.8 | [0.636, 0.798] |
| | 1 | [0.66, 0.66] |
| 50% | 0 | [0.4, 1.2] |
| | 0.2 | [0.42, 1.06] |
| | 0.4 | [0.44, 0.92] |
| | 0.6 | [0.46, 0.78] |
| | 0.8 | [0.48, 0.64] |
| | 1 | [0.5, 0.5] |
| 60% | 0 | [0.28, 1.25] |
| | 0.2 | [0.296, 1.072] |
| | 0.4 | [0.312, 0.894] |
| | 0.6 | [0.328, 0.716] |
| | 0.8 | [0.344, 0.538] |
| | 1 | [0.36, 0.36] |
| 70% | 0 | [0.24, 1.5675] |
| | 0.2 | [0.252, 1.314] |
| | 0.4 | [0.264, 1.0605] |
| | 0.6 | [0.276, 0.807] |
| | 0.8 | [0.288, 0.5535] |
| | 1 | [0.3, 0.3] |

We have got $\underline{\alpha}$-cut of fuzzy weighted average cost of capital under difference debt ratio. Thus, according table 3 and equations (1) and (2), we can calculate left and right integration, $I^L$(FWACC) and $I^R$(FWACC), besides, addition $I^L$(FWACC) and $I^R$(FWACC) will get R(FWACC) numbers.

**Table 4. Range of fuzzy weighted average cost of capital of China Airlines**

| Debt ratio | FWACC | | |
|---|---|---|---|
| | $I^L$(FWACC) | $I^R$(FWACC) | R(FWACC) |
| 0% | 1.4 | 1.6 | 3 |
| 10% | 1.17 | 1.4568 | 2.6268 |
| 20% | 0.96 | 1.3075 | 2.2675 |
| 30% | 0.77 | 0.8075 | 1.5775 |
| 25% | 0.6 | 1.005 | 1.605 |
| 50% | 0.45 | 0.85 | 1.3 |
| 60% | 0.32 | 0.805 | 1.125 |
| 70% | 0.27 | 0.9337 | 1.2037 |

Becomes to the fuzzy weighted average cost of capital pairs in the combination. The debt accounts for the total capital proportion 60% with fuzzy weighted average cost of capital FWACC=(0.28%, 0.36%, 1.25%) pairs the group arrangement value R(FWACC)=1.125 to be smallest.

After completes the capital structure the fuzzy weighting fund cost inferential reasoning. It arranges in addition the value smallest fuzzy weighted average fund cost and its debt the corresponding accounts for the total capital proportion, does for under the known capital structure and the fuzzy fund cost, after under inferential reasoning fuzzy capital budget internal reward rate basis of the fuzzy revision. It is the fuzzy investment amount for (10 billion, 10 billion, 10 billion). The fuzzy cash current capacity then respectively when it is the first back is (3.21 billion, 3.26 billion, 3.31 billion), the second cash flow back is (3.26 billion, 3.31 billion, 3.36 billion), third cash flow back is (3.31 billion, 3.36 billion, 3.41 billion), the fourth cash flow back is (3.36 billion, 3.41 billion, 3.46 billion), and fifth cash flow back is (3.41 billion, 3.46 billion, 3.51 billion). The fuzzy weighted average cost of capital is (0.28%, 0.36%, 1.25%). Then infers the fuzzy revision internal reward rate after the formula (4) to show for (0.2373%, 0.2802%, 0.7356%) as following Table 7.

When fuzzy weighted average cost is (0.28%, 0.36%, 1.25%). Therefore the special case investment makes a profit the nature for (-1.0127%, -0.0798%, 0.4556%). This result showed, only has the cost when 0.28% can make a profit 0.4556%, when or the cost is lower, only then has good makes a profit the space. Otherwise it makes a profit the nature all is the negative value. But must be able to make a profit 0.4556% income. It has to be the triangle fuzzy number upper boundary can obtain the benefit first to fifth term of fuzzy cashes inflows value. The synthesis above may know that, the use fuzzy set theory may the clearer understanding special case investment make a profit the scope and the guidance.

**Table 5. Fuzzy modified internal rate of return (FMIRR) of China Airlines**

單位：新台幣仟元/百分

| Term | FTV | FMIRR (%) |
|---|---|---|
| 1 | (3210000,3260000,3310000) | (0.2373,0.2802,0.7356) |
| 2 | (3260000,3310000,3360000) | |
| 3 | (3310000,3360000,3410000) | |
| 4 | (3360000,3410000,3460000) | |
| 5 | (3410000,3460000,3510000) | |

## 5. CONCLUSION

Obtain the information from the financial plan management and the decision-making frequently is uncertain and fuzzy. There are many decision maker using precise numbers to describe the decision variables is very difficult. So this study is using the dynamic view to explain the risk and revenue. This paper establishes the new guidance on the financial model. This proposes to be allowed in the fuzzy management situation to effect carries out the fund cost estimating and the capital budget for decision-making on risk and revenue analysis method. This policy-making method except may provide airlines or enterprise capital source in fuzziness information the decision-making and the special case investment fuzzily the making a profit appraisal, causes the policy-maker when makes the special case investment. Its fund obtains the cost and the investment makes a profit the nature on the identical construction surface most greatly with the minimum value appraisal result. It may help the policy-maker when the special case investment, utilizes when the different capital structure standard the different fund cost upper limit and the lower limit. The adjustment special case investment needs the most suitable capital structure. The low cost and makes a profit the maximization in order to help the special case investment. This research institute proposed the risk and revenue may provide the enterprise under not to be indefinite and the fuzzy management environment, makes more appropriate also is in harmony with the actual situation the fund cost and the capital budget decision-making.

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# E-GOV: STATE OF THE PRACTICE AND RECOMMENDATIONS FOR IMPROVEMENT

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## ABSTRACT

*Electronic government, or E-Gov, is a fast growing set of tools and technologies designed to improve the quality of services provided by public agencies. However, there is confusion in terms of what constitutes E-Gov and what to expect from it. This paper expands upon and contextualizes West's typology of E-Gov practices and it presents four principles which should guide the development of E-Gov in the future. The principles (improve connectedness, distribute resources effectively, reduce redundancies, and enhance participative government) together could help public administration fully capture the potential inherent in E-Gov technologies.*

***Keywords:*** *E-Gov; Information Technology in Government; New Public Management*

## 1. INTRODUCTION

The history of public administration is deeply linked with technological developments. The spirit of modern public administration has been about efficiency and improving the impact of government programs over a wide area. Public agencies have constantly updated their methods to serve citizens based on technological improvements and innovations. Since the City of Boston's use of automobiles for police patrols in 1903 to the current efforts by NASA to plan a voyage to Mars, public agencies have been closely linked with the use, and in some cases with the development, of new technologies. One of the most important recent technological innovations is in the areas of computers and the internet which have created a powerful, interlinked web wherein sophisticated transactions and vast information storage become easy. Public agencies in developed countries have widely adopted this information technology and created several systems which are collectively called as 'E-Gov' (for 'electronic Government'). However, in spite of the current pervasiveness of E-Gov, there are areas where public administration has not fully realized this technology's potential to transform citizen services or to improve trust in government (West, 2004; Warkentin et al, 2002). This paper then has two purposes: to categorize the extant E-Gov projects into types, and to identify principles which could guide the development of E-Gov in the future.

## 2. CHARACTERISTICS OF E-GOV

'E-Gov' is a set of tools and strategies used by government agencies in order to interact with, and provide services to, citizens. In that sense, it is another medium of interaction between the government and its citizens even though it is significantly different from other mediums in the technologies and tools that it uses as well as in the potential it has for transforming the nature of citizen-government relations. At its core, E-Gov involves the application of information, and especially internet, technologies in the delivery of government services. E-gov has been defined as the "... use of information technology ... to deliver public services in a much more convenient, customer-oriented, cost-effective, and altogether different and better way" (Holmes, 2001, p. 2).

Defining E-Gov is a major challenge because of the diversity of tools, applications, and ideas involved in it. E-Gov is a broad concept and it includes a wide variety of things ranging from the web page of a local parks and recreation department where citizens can reserve space for family events to the IRS's system of allowing citizens to file their taxes electronically. Occasionally, E-Gov also manifests itself in the form of bulletin boards where citizens post requests for services or complaints, and public administrators will respond accordingly. At its best, E-Gov has the potential to enhance democratic institutions by allowing citizens to participate in administrative and policy decision making, and also to improve accountability of public agencies by allowing citizens to report problems in services and abuses by administrators.

E-Gov is also a broad concept in terms of the tools and technologies involved. It involves small, local servers to super-computers. It also involves simple web sites of public agencies created with off-the-shelf applications to very sophisticated and interlinked applications with cleverly designed user interfaces which make possible sophisticated transactions for citizen users. There is much diversity in terms of delivery of E-Gov too: while many services are created or delivered in-house by government agencies, several of the complex services are built and / or delivered by contractors.

Another issue which makes generalizations about E-Gov impossible is the diversity in the level of integration provided by public agencies. Several E-Gov sites operate in isolation from other, related, public agencies. These sites represent agencies which, in the brick-and-mortars world consider their agencies to be separate, in scope and in power, from other agencies even when clients need these agencies to collaborate in order to provide articulated services. This is a typical mind set in public administration. Some public agencies however have moved beyond this thinking to provide a few integrated services (or at least, some integrated information about diverse or separate services) in a portal format. Even though these latter types of initiatives represent the potential for transformation inherent in E-Gov, the former kind of initiatives do still qualify to be called with the same label.

An important characteristic of E-Gov is that citizens need certain specialized tools (and in some cases, training) to access government services. Not only are users required to have computer and Internet access, they are also required to understand how to use these tools effectively and without compromising their privacy and safety. The idea that poorer citizens as well as those that have not grown up using computers would be left behind the E-Gov movement has led to discussions about the 'digital divide' (Mossberger et al, 2003; Gibbins, 2000), a wall that separates the 'haves' and 'have-nots' in the digital age. However, all E-Gov initiatives assume that citizens will have access to some form of computer or related equipment in order to receive services. This is why countries which have made heavy investments in developing the technological infrastructure (as well as in ensuring that citizens are trained in the use of that technology) have very successful track records in E-Gov initiatives.

## 3. SELECT E-GOV EXAMPLES

As mentioned earlier, E-Gov initiatives range from those in public libraries to sophisticated sites for tax filing, and advanced portals that tend to present information for citizens in a centralized and unified (virtual) location. These portals realize the exciting possibilities of what E-Gov can do for citizens and a couple of examples are discussed here.

A very good example is the portal belonging to the US federal government called 'FirstGov' (www.firstgov.gov). Its ambition is to be the single gateway for all government information as far as the citizens are concerned and also to use and experiment with electronic technologies to explore new ways of delivering information and services. This portal allows citizens to access government information at any time of day. Further, it is equally available to citizens even when they are outside the country. In typical portal fashion, it allows access to information by type of user. For example, the information that is first presented to individual citizens is slightly different from the information that is presented to small business owners which is different from the information presented to federal employees. It also sorts information by topic and urgency (for example, information on identity threat is lately highlighted) and further allows users to search for the specific information they want. In that sense, this web site follows the model set by private sector portals like Yahoo. The essential aim is to present as much information as possible, in easily identifiable categories, and in a simple interface. This E-Gov tool succeeds in this regard presenting a very wide range of information in a clean and simple interface.

While the wealth of information at 'FirstGov' is remarkable, the portal is also trying to expand into the area of allowing users to customize the information they want to receive. For example, it is possible to receive E-mail alerts and RSS feeds from this site based on criteria chosen by users. At the same time, the site has taken efforts to make sure that user's privacy is protected and has a well articulated privacy statement.

A second example, and probably one of the best E-Gov portals in the world, belongs to the Singapore government and is called 'eCitizen' (www.ecitizen.gov.sg). This portal is organized much like the 'FirstGov' site and also divides information into sections and by users (citizens, non-residents, other government agencies, etc.). Its presentation is also simple yet it is rich with information. This portal also allows searching for information by citizens or visitors. In one important respect though this portal is an improvement upon the 'FirstGov' site; it allows citizens to make a wider range of transactions than most E-Gov portals currently available. For example, citizens can make reservations at parks, renew licenses, pay fines, buy government publications, file taxes, and even donate to charities, all from one web page. In that sense, it moves beyond the idea of an E-Gov portal as being a trough of information and becomes an interactive tool for citizens. To some extent this portal can be used by citizens in lieu of visiting several government offices. This portal also allows citizens to search for information and to receive information through email or text messages on mobile telephones. Singapore’s 'eCitizen' portal has one of the simplest yet wide ranging privacy statements I found in my research.

Singapore’s 'eCitizen' portal makes all this possible, to some extent, because it is a small country and there is no complex layer of federal, state, and local jurisdictions. Therefore, a single portal can provide access to services which, in the US case, would have to be provided by agencies at the federal, state, and local levels. Another explanation for this is that Singapore has undertaken long range strategic planning in terms of how its government should build and use information technology. The latest version of this strategic planning is called the 'IN2015 Masterplan' which is a vision with practical ideas for further developing the country's information technology infrastructure and related training and services through the year 2015. As part of this plan, for example, the government expects that broadband internet connections will be available in ninety percent of the households and that every home with school age children will have a computer. Given Singapore's high rate of success in implementing previous information technology strategic plans, it is very likely that these impressive infrastructure and usage levels will be accomplished.

## 4. TYPES OF E-GOV

Given that E-Gov initiatives are of a varied nature and given that they seek to accomplish different purposes, it would be useful to have a classifying scheme to study and compare them. Classification schemes will also be useful to plan future improvements in E-Gov. One of the most useful such schemes is provided by Darrel West (2005) who locates E-Gov projects on a continuum of four stages of evolution. Most E-Gov projects tend to evolve from a relatively primitive state to a more sophisticated stage. However, as we will discuss later, some E-Gov projects do not evolve at all because the stage they are currently in best represents the purposes they tend to serve. The four stages are 'billboard', 'partial service-delivery', 'portal', and 'interactive democracy'.

The 'billboard' stage is a "static mechanism" (West, 9) to display information and, in some cases, propaganda. Government agencies use web sites primarily as tools to display the information they think the public needs. Such sites therefore contain press releases, reports of various agencies, public announcements, statements of ministers, and in some cases, lists of accomplishments of various departments and their ministers. Citizens are seen as passive recipients of information and, therefore, no opportunities are given on these E-Gov sites for citizens to request information or search for data. Typically, these sites do not identify how citizens can contact administrators. The technologies and tools used by public agencies in this stage are rudimentary and contain simple, off-the-shelf programs. The E-Gov philosophy in this stage is driven by the thinking that this is another tool for public agencies and their elected leaders to receive publicity for the work they are doing.

In the second, the 'partial service-delivery', stage projects are characterized by their attempts to give citizens an opportunity to select the information they want and by their intent to provide at least some services online. The philosophy driving this stage is that citizens should be given some control about what information and services they get and how or when they get them. These E-Gov projects contain a wide range of information online including large databases that can be searched. Examples include searchable census databases, parliamentary debates, and library databases. Some public libraries allow citizens to order books from any branch in their system and to place new books on hold for them, all online. Some libraries also allow users to pay fines online and to renew books. These E-Gov projects demonstrate how services and information may be provided so that citizens can access them at a time of their convenience. The technologies involved in this stage are somewhat sophisticated and complex and require a combination of off-the-shelf tools along with custom programming, usually done by outside contractors.

The 'portal' stage derives its format from the idea of a mall. This is the notion that different types of discrete services should be available under one (virtual) roof. Portal type E-Gov projects involve presenting information and services from different departments in one location and presenting them with a consistent look and feel. The ambition of such projects is to provide not only a wide range of information in one place but also to make many departments to cooperate in disseminating such information in a uniform fashion. In that sense, this stage presents a significant departure from the way public administration is traditionally conducted: it requires departments and agencies which operate as discrete entities in the real world to collaborate and agree upon common standards for operating in the virtual world. Extensive collaboration among departments and agencies in the portal stage is required in the areas of how and what information is presented to the public, creating and using a common user-interface, on how (and how quickly) departments will respond to citizen inquiries (which is part of a set of common standards for customer service), and on privacy and security standards.

An important characteristic of E-Gov portals is that citizens are given choices. These choices range from the types of information to access, the format in which it is accessed, choices of paying for services, to the method of contacting administrators. In that sense these E-Gov initiatives allow users to customize what they get, and choose, to some extent, how they get the information and services they want. The emphasis is on making things easy for citizens from finding information to getting the services they need. A big part of this convenience issue is centered on presenting information and services from a wide variety of agencies in one place, in one format, and in a linked fashion. Occasionally, some E-Gov initiatives in the portal stage also allow citizens to store their own information on a government server so that they don't have to reenter the same information (like addresses and phone numbers) multiple times.

Because of how much information citizens enter into these web sites, government agencies have to think seriously about security and privacy issues very thoroughly in the portal stage of E-Gov development. Not only do they need comprehensive and up to date privacy policies, they also need all the agencies participating in the portal to agree upon a common set of standards, rules, and reporting and enforcement mechanisms. This will involve top level coordination between these agencies as well investment in the appropriate security technologies, training of staff, and the management and enforcement of established policies. These portals also need to publicize these privacy policies in a prominent way and in a language that is commonly understood. Even though most citizens tend to trust government web sites, and even though convenience eventually trumps concerns about the security of online transactions, the onus is on E-Gov portals to inform their customers about the steps taken by the participating agencies to protect citizens' privacy as well as to easily allow citizens to report violations of security and privacy. These security and privacy standards are like contracts and must be enforceable. As citizens read more and more about violations in this regard in the private sector as in the Choicepoint case (Zeller, 2005; Timmons, 2005), and in the public sector as in the Veterans Administration case (Stout and Zeller, 2006) they will become more aware of the risks and would want to know how such violations would be handled if they themselves were impacted.

Extensive collaboration among agencies which typically fight for autonomy and turf would require initiative and coordination from high levels in the administration. Studying successful E-Gov projects in the portal stage shows that such high level and high powered coordination is crucial, especially in countries which have democratic, federal systems. In the case of the United States, such coordination and leadership can be traced up to the White House. The Chief Information Officers' (CIO) Council was created by an Executive Order (later codified in the E-Government Act of 2002) and is managed through the White House and its Office of Management and Budget. The CIO Council's charge is to make sure agencies collaborate in order to achieve the President's E-Government Strategy. Such macro level collaboration can also be seen in the case of Singapore even though, being a small nation-state, its coordination challenges are simpler than those in the US. Singapore has pushed forward its portal like E-Gov projects through various long term strategic initiatives called 'Masterplans' that have been coordinated through their finance ministry. These projects also appear to have support from the government's cabinet.

The focus of the portal stage of E-Gov however is on making it easier for citizens to deal with the government rather than on improving or increasing citizen participation in public administration. The fourth stage of E-Gov development focuses on this participation issue. This 'interactive democracy' stage seeks to exploit the full potential of information technologies in order to facilitate citizen participation in novel ways.

According to West (2005) the interactive democracy phase has two aspects–public outreach and accountability measures. Together, these aspects try to realize widespread and systematic transformation in the way government conducts its interactions with citizens. This stage makes possible high levels of customization of services by citizens. A simple example would be a public library offering to send a book requested by a user as either an e-book (via e-mail or a download) or as a paper copy sent to a branch near the customer's home or work. Customization based on a citizen's interests, home or work location, profession, etc. also allows for public agencies to send the citizen information and news updates about matters that are relevant and useful to them. Citizens are provided an opportunity to specify when to receive these updates and when to stop them.

The second and more interesting characteristic, along with customization, of this stage is that citizens are actually afforded the opportunity to participate in some form of decision making by public agencies. Citizens that express interest in issues are provided newsletters, agendas of public meetings, and advance notices on rules being proposed. Online forums and discussion groups are made available where citizens can post comments, respond to proposed rules, and offer suggestions. The participating public agencies will have established procedures and standards for determining how, and how soon, they will reply to citizen postings in these forums. That is, these forums are treated not just as providing a means for citizens to vent but as a feedback mechanism into administrative decision making. Standards are also made available to citizens in terms of rules of participation and privacy protections.

The Hewlett Foundation and a nonprofit group called the Information Renaissance collaborated with the US Environmental Protection Agency to conduct, in 2001, an online dialogue called 'The Public Involvement in EPA Decisions'. This dialogue was conducted online (archives are available at www.network-democracy.org/epa-pip) and involved discussions about EPA’s proposed policies on the involvement of the public in decision making. This is an example of how E-Gov initiatives in the fourth stage enhance democratic institutions and, to some extent, improve accountability of public agencies.

Such E-Gov initiatives however are rare for several reasons. For one, many public agencies are hesitant to involve citizens in this way because of the uncertainty of what to expect. Agencies may feel that once they let customers discuss the policies of an agency or its operations, one never knows what one would find, especially in unmoderated discussion forums. Second, agencies aren't sure what to do with all the input they receive. Processing the input, organizing it into categories, and developing a plan for improvement based on that would require sophistication, experience, and resources. Third, many agencies might feel that they are already responsive through other channels and the cost and effort in E-Gov accountability projects might not be justified. Further, in the political world, agencies are juggling accountability (Radin, 2002) to several stakeholders and they often feel primary loyalties to those stakeholders that control their budget or the executive level appointments within those agencies. Fourth, some government agencies are finding that citizens are telling them different things about what they expect from E-Gov depending upon who is asking and how data is collected (Cook, 2000). This has led to confusion even among well meaning administrators about what the best thing to do is in this direction. Finally, there are costs involved on the user side too. Citizens that have easy access to computers are comfortable with chat and discussion forum technologies. Further, citizens that have the discretionary time tend to be over represented in these E-Gov initiatives. Therefore, large sections of the public goes unrepresented and public agencies may feel that the cost and effort is not justified since the feedback they receive through these channels is anyway not representative of their entire clientele.

## 5. RECOMMENDATIONS FOR IMPROVING E-GOV

Even though the most exciting possibilities of E-Gov are in the area of enhancing democratic processes, E-Gov's potential in the immediate future is in the area of improving the quality of citizen services. The reason is that E-Gov projects designed to improve democratic processes will require a thorough debate at the institutional and the citizen levels. These debates will require us to sort out the appropriate role of technology in a democracy and to address issues of inequity in access. However, there is a long tradition in public administration which supports the notion of improving the quality and consistency of services for citizens which makes pushing E-Gov reforms designed to improve such services relatively easy. Administrative reform initiatives like New Public Management (Osborne and Gaebler, 1992) also make the use of E-Gov easier with their emphasis on collaboration, being user-centered, and making private and public organizations work together.

In order to deploy E-Gov more effectively in the areas of improving services for citizens (consistent with West's second and third stages), public agencies need to be guided by four principles: improve connectedness, distribute resources efficiently, reduce redundancies, and enable participative government. Together, these principles will enable public agencies realize the potential within E-Gov technologies and systems for making public administration more efficient while improving the quality of citizen services. In this section I will describe with examples how these principles could enhance E-Gov.

### 5.1 Improve Connectedness

While technology tools may be disparately distributed, it is possible that they are connected in different ways relatively easily. Such connections may be permanent, pervasive, or intermittent based on the needs of the users within the system. Thus, two users may connect their computers with each other several times a day to share information or a user may access the system only to get the information he/she wants before disconnecting. Further, such connections may be enabled through push technologies which will connect to users based on pre set criteria. Very fast sharing of information that appears in custom formats at a superficial level is also possible with XML technologies.

For example, when the Department of Homeland Security and the Transportation Security Administration update or alter airport security procedures, those changes could immediately appear on their respective web sites and well as on FirstGov. Further, airline, travel, and news websites can subscribe to RSS feeds from the TSA which could result in users browsing those sites becoming immediately aware of the changed procedures. The TSA could use push technologies to further expand connectedness. For example, frequent travelers could subscribe to free emergency alerts from the TSA. When major developments take place, or new procedures are being implemented which would impact travelers, subscribers would receive these alerts on their cell phones, PDAs, or email in-boxes. The technology already exists which would allow for such near real-time connectedness between disparate devices and between citizens, private companies, and public agencies. E-Gov projects should tap into these technologies and secure cooperation from various public agencies to implement projects.

The utility of developing such connectedness is immediately clear in the case of emergency management and in travel related applications. This principle is also relevant in other areas like border security, education, libraries, and social services. For example, when children in the foster care system are moved from placement to placement (sometimes several times in an year), their educational records are left behind or lost. As a result, these children don't receive consistent and integrated services. Often, teachers in new schools have no idea what a child has already learnt or what the child's special needs are. This problem is especially acute because these children typically don't have advocates on their behalf within the system other than overworked social workers. E-Gov projects using currently available technology can make it relatively easy (technologically if not administratively) to file student records in one virtual folder and make them accessible to authorized service providers in other areas. A secure authorization system can allow officers in such a student's current school district to pull previous records and tailor services based on those records. Similarly, school officials can leave notes in such a folder for future teachers and counselors should the student be moved again. Developing connectedness therefore allows for the transmission of key information to users in a quick fashion and allows for such information to be available at the point where services are delivered to citizens.

### 5.3 Distribute Resources Efficiently

One of the bottlenecks for widespread or enhanced E-Gov implementation is the high cost of technology systems and infrastructure, custom programming, and training. As a result, the larger public agencies and jurisdictions tend to have better E-Gov projects compared with the smaller ones. However, one of the fundamental advantages of good E-Gov systems is that they could connect, as was discussed above, different agencies, users, and geographic locations. It is possible that, with adequate planning, E-Gov systems are so designed as to distribute the use of this technology more efficiently even though the physical location of the technical and human infrastructure is centralized.

An application of this principle could be in a health care system. For example, a county hospital can make the investment in expensive diagnostic equipment as well as in recruiting and training medical professionals in the use of that equipment. At the same time, branch hospitals and clinics in the county can plug into the network to use that equipment and staff remotely. Doctors at these remote sites can upload patient information into the system to be examined by specialists using the centralized equipment in the main county hospital. These specialists can review the information and make treatment recommendations in real time. In this way patients in rural clinics would have access to the kind of specialized and quick medical help that they otherwise would not have unless they traveled to the main county hospital. For county governments, investment in capital and human resources in one place would have payoffs throughout the county.

Another example of this can already be seen in some library systems. Instead of buying several copies of expensive and popular new books for each branch library, these agencies purchase a few copies and circulate them around the system based on user demand. E-Gov systems thus make it possible to distribute resources more efficiently in ways that better serve users.

**5.3 Reduce Redundancies**

Because E-Gov systems allow for the centralized and secure storing of information, they offer the possibility of removing redundancies in transactions with administrative agencies. Such agencies have traditionally operated in structures that encourage silo thinking and have acted proprietarily about information. Further, the sheer cost of sharing information between agencies that is captured in paper forms, or the cost of transferring it from one custom electronic form into another has prevented agencies from sharing it. Current technologies however offer two means of overcoming this problem. The first is that data can be tagged in ways that, even though it is entered in custom forms that are unique to a particular agency, can also be read by computers that belong to another, cooperating agency. Thus, it is possible that the data entered by the US State Department into computers at its consulates about visa applicants can immediately be read by the Department of Homeland Security's computers. These latter computers can reformat such data and present it in a way that could be useful for its decision makers. It would thus not be necessary for the data to be manually transcribed or transferred from one system to another.

Another way in which redundancies can be eliminated is by allowing citizens to enter data directly into E-Gov systems. The advantage with this approach is that there is very little cost to a public agency for capturing such data in the first place. For example, a Department of Motor Vehicles could provide an user account to each of its customers. Users will then log into their accounts to update information about address, phone number, new vehicles purchases, accidents, etc. The Department could have additional systems to verify some of the data that was input by users (for example, about accidents, insurance coverage, etc.). It is possible to set up such systems in such a way that some of the information may be shared with other public agencies. For example, when a user makes a change of address in the account, he/she may be given the option that this information will also be forward by the Department to the post office.

**5.4 Enable Participative Government**

E-Gov technologies, since they operate in an asynchronous way and in virtual space, make it unnecessary for all participants to be in the same room at the same time. These technologies also reduce the cost of enabling participation, collecting and storing user input, and codifying it. Thus, government agencies can use tools to gather citizen input on a proposed policy as the EPA did in the example cited above. User input could also be effectively sought in programmatic matters–for example in determining which summer programs should a parks district continue and which ones to cancel during a budget crunch. However, issues of lack of access to, or awareness about how to use, technological tools hinders effective citizen participation. Effective decisions could also be hindered by the fact that some citizens dominate online discussions on policy issues and by the lack of civility in discussions which keeps some citizens away from such forums (Hurrell, 2005).

The thrust of these E-Gov measures however would be to improve the quantity and quality of citizen input about the way their public agencies are governed. Such governance systems can be further improved through the use of accountability tools. For example, clients or public employees can report abuses in public agencies. Ombudsman offices can also use these tools to create fast and cheap reporting mechanisms. E-Gov can be used by Ombudsmen to report back to their communities and legislatures on the investigations they conducted and the actions they recommended. A very good example in this regard is the Office of the Ombudsman for the state of Hawaii (www.ombudsman.state.hi.us/).

Public agencies moving forward to enhance participative government through E-Gov should however do this very deliberately and in a way that does not put some groups of citizens at an advantage over others. The use of E-Gov tools requires training or practice, and the availability of computers, etc. on the citizens' side. Those that have these, that is, those on the happy side of the digital divide, tend to be able to participate better. Worries about the digital divide are an important reason why public agencies have not pushed E-Gov projects in this regard.

Even though, in terms of technology and cost, it would be fairly simple to build such systems, there are likely to be some roadblocks to realizing these principles. The first is the age old sensitivity of public agencies to sharing information with others. Many agencies act in ways that protects their turf and in ways that show them as superior to other agencies. There are very few institutional and budgetary incentives to share information or to create integrated, user centered, service delivery systems. The reports about the challenges to sharing information between the larger Department of Homeland Security and its own Federal Emergency Management Agency during Hurricane Katrina (Hsu, 2006) reinforce this observation.

The second reason is that citizens may be anxious about the vulnerability of easily shared databases that contain information about their lives. Reports of government agencies 'losing' such data stoke this anxiety even further. The cause of making public agencies share information and reduce redundancies isn't furthered by the fact that many agencies, in accordance with New Public Management principles (Osborne and Gaebler, 1992), have been contracting out the tasks of collecting, processing, and storing citizen data. Perhaps this is one area where less 'entrepreneurialism' is better than more. Warkentin et al (2002) argue that improving citizens' trust in E-Gov is the fundamental key to increasing usage of these systems. They argue that institutional trust building measures (like an independent and active judiciary) would be important in this regard. The proposed laws in the US to protect citizens' data online and punish firms which are careless with the use of such data would be a step in this direction. In order to be successful therefore, E-Gov initiatives should contain the technological tools as well as the political and institutional supportive tools (Asgarkhani, 2005).

## 6. CONCLUSION

In many ways administrative agencies have adopted and pushed the functionality of information technology in new directions through E-Gov projects. The convenience, customization, and on-demand nature of E-Gov service delivery is unparalleled through the history of public administration. At the same time, the technology itself has been developing so quickly that new functionalities become rapidly possible. There is much room for E-Gov improvements, especially in the area of enhancing citizen participation in administrative decision making, and in using technology to make public agencies more accountable. As citizens become more aware, and as a new set of leaders (with a high degree of comfort level with these technologies) take charge, we can hopefully expect to see further improvements to the practice of public administration.

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## MIMUMUM PAY REQUIREMENT AND MORAL HAZARD

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### ABSTRACT

*This paper deals with the moral hazard problem in a simple agency setting by comparing characteristics of the optimal compensation contracts with or without the minimum pay requirement. We find that, even when the agent is risk neutral, the principal is compelled to pay extra whose amount is equal to the agent's extra utility gain. The moral hazard problem is not lessened in the presence of the risk-neutral agent as long as the minimum pay requirement is in place.*


***Keywords:*** *Minimum Pay Requirement, Moral Hazard, Agency, Agency Costs.*

### 1. INTRODUCTION

For various reasons, delegation becomes a norm in an organization. With it comes the problem of moral hazard in which the agent (the party being delegated an assignment) tends to take care of her own interests first to the detriment of the principal's (the party that delegates the assignment). The thrust of the problem rests upon two conditions, according to Holmstrom (1979). One is that the parties' interests are not properly aligned. The principal, for example, prefers due diligence on the part of the agent in order to extract better result from the assignment. The agent, on the other hand, favors less work and avoids risky (but potentially rewarding) approaches. All these can be prevented if the principal can perform the assignment himself. Obviously, this option is not available when delegation is necessary in the first place. By delegating, the principal also forgoes the chance to directly observe what (and how well) the agent is doing. The combination of both (misalignment of interests and unobservability of the agent's actions) leads to the moral hazard problem.

The principal's remedy to the moral hazard problem is his reliance on information available to him – any signals, no matter how remote or indirect, linked to the agent's behavior or actions. The compensation contract is thus designed based on the available signals to provide incentives to the agent to work in a way preferred by the principal and lessons the adverse impacts of the moral hazard problem.

The argument above is in line with the traditional exposition of the moral hazard problem (see, for example, Gross and Hart 1983; Itoh 1993; Macho-Stadler and Perez-Castrillo 1993) by assuming that (1) the principal can not observe the agent's actions and (2) the agent is risk (and work) averse. Since the incentives built into the compensation contract inevitably increase the agent's risk exposure, the agent's choice of actions will only lead to the principal's second-best solution in terms of risk sharing and effort inducing.

An alternative approach to the moral hazard problem assumes that (1) the principal's observation of the agent's actions is imperfect, (2) the agent is risk neutral and (3) there is a minimum pay restriction. The presence of (3) may be regulated by law (such as the federal minimum wage requirement), or to guarantee the agent's minimum living standard. Allgulin (1999), Demougin and Fluet (1997), Kim (1997), Park (1995) and Shapiro and Stiglitz (1984) adopt these assumptions. When the agent is risk neutral, the incentives inherent in the compensation contract will no cause the principal to pay extra to take care of the agent's risk sharing concerns. However, the compensation contract must stipulate a base salary that is at least as much as the minimum pay to guarantee the agent's participation. What sort of changes does the compensation contract have to be made to accommodate such requirement? What are the characteristics of the new compensation contract vis-à-vis the one under the risk aversion assumption? What are the impacts to the principal's employment costs and the agent's utility?

This paper looks at the issues of contract design under different assumptions to address the moral hazard problem in a simple modeling setting. The remainder of the paper is organized as follows. The next section provides a model building process, followed by the development of incentive contracts. The last section concludes the paper.

## 2. THE MODEL

In this section, a simple model will be developed to explore the issues. Assume that a principal (say, a business owner) hires an agent (an employee) to work on a project. From the principal's perspective, it is preferable that the agent works hard to achieve a desired result. The agent, on the other hand, may choose to shirk her responsibility, as long as she can escape detection while reaping the reward. Let the agent's action choice be $\alpha$, where $\alpha \in$ {H, L}. This means that the agent can choose to work hard with high effort (H), or shirk with low effort (L). By her very nature, the agent is work (or effort) averse in the sense that working hard will cost her more mentally as well as physically. This is represented by the monetary function c, where c($\alpha$) = c > 0 if $\alpha$ = H; c($\alpha$) = 0 if $\alpha$ = L.

The presence of moral hazard problem in which the agent may shirk her work prompts the principal to come up with a countermeasure, an incentive contract, whose purpose is to entice the agent to work hard. Because of the expertise the agent has in handling the project, the principal is not privy to what (or how well) the agent has been doing. The only information available to the principal is y, a performance measure about the result of the project, where y $\in$ {T, t}. T signals that the result meets or exceeds a target, while t signals a result that is below expectation. Let $P_\alpha \equiv$ Probability (y = T; $\alpha$), $\alpha \in$ {H, L}. $P_\alpha$ stands for the probability of the good result when action $\alpha$ is taken by the agent. It is expected that $P_H > P_L$. That is, when the agent works hard, there is a better chance of getting a good result.

When the principal designs the compensation contract, he has to base the payment to the agent on the only available information, y. Once the contract is signed by both parties, it can be enforced in the court of law. The incentive built into the contract is designed to nudge the agent to work hard and produce good result with higher probability. Let $r \equiv (r_0, b)$ be the compensation contract with a base salary, $r_0$, and a bonus, b. When y = t, the agent receives $r_0$; when y = T, the agent get $r_0$ + b. The minimum pay requirement is such that, regardless of the results, the pay to the agent mush meet the restriction. For simplicity, the minimum pay is normalized to be 0.

The sequence of the events described so far is,

(a) The principal announces the job description for the project and the compensation contract, $r \equiv (r_0, b)$;
(b) The agent decides whether to accept the contract;
(c) Conditional upon acceptance, the agent decides the action choice, $\alpha \in$ {H, L};
(d) The outcome of the project, y $\in$ {T, t}, is realized;
(e) The principal executes the contract and the agent is paid.

Combining events (b) and (c), the agent can choose between Rejecting the contract, Accepting the contract while exerting high effort ($\alpha$ = H), and Accepting the contract while exerting low effort ($\alpha$ = L). When risk neutrality is assumed for the agent, her expected utility will be the difference between the expected earnings from the contract and the monetary cost of working. Let the agent's opportunity cost of working on this project be zero. Corresponding to the three choices above, the agent's expected utility will be 0, $r_0 + P_H b - c$, and $r_0 + P_L b$, respectively.

The principal's goal is to minimize the expected payment to the agent. The agent, on the other hand, wants to maximize her expected utility. All the parameters above are assumed to be common knowledge.

## 3. INCENTIVE CONTRACT DESIGN

Because of the restriction on minimum pay (normalized to be zero), the compensation contract must satisfy

(1) $r_0 \geq 0$, $r_0 + b \geq 0$.

In addition, the principal must design the contract so that the agent will choose Accepting the contract while exerting high effort ($\alpha$ = H) over the other two options (i.e., Rejecting the contract and Accepting the contract while exerting low effort ($\alpha$ = L)).

(2) $r_0 + P_H b - c \geq 0$ .

(3) $r_0 + P_H b - c \geq r_0 + P_L b$ .

The participatory constraint (2) says that the agent's working hard pays off at least as well as not working at all. Another way to look at the constraint is, the agent's expected earnings must at least cover her monetary cost when she works hard. The incentive constraint (3) ensures that the agent is at least willing to work hard vis-à-vis the shirking alternative. From (3),

(4) $b \geq \dfrac{c}{P_H - P_L} > 0$

because $P_H > P_L$ .

Since the principal wants to minimize the expected payment to the agent, his quest to solve the moral hazard problem can be summarized as follows.

(5) $ER_{\text{with minimum pay}} \equiv \underset{r_0, b}{\text{Minimize}}\ r_0 + P_H b$ , subject to (1), (2) and (4).

Before the solution to (5) can be characterized, a benchmark case in the absence of minimum pay requirement will be defined and solved first.

(6) $ER_{\text{without minimum pay}} \equiv \underset{r_0, b}{\text{Minimize}}\ r_0 + P_H b$ , subject to (2) and (4).

In this case, the principal wants to design the compensation contract to minimize the expected pay for the agent, subject to the agent's participatory and incentive constraints.

**Proposition 1**.
The solution to the problem (6) can be characterized by

(a) For the optimal (minimum) payment to the agent, $ER_{\text{without minimum pay}} = c$.

(b) For the optimal contract, $r_{\text{without minimum pay}} \equiv (r_0^*, b^*) = (-\dfrac{P_L c}{P_H - P_L} - P_H u, \dfrac{c}{P_H - P_L} + u)$ , $u \geq 0$ .

(c) For the agent's expected utility, $EU_{\text{without minimum pay}} = 0$.

**Proof.**
(See Appendix)

In the absence of the minimum pay requirement for the agent, as long as the bonus is big enough (i.e., $b \geq \dfrac{c}{P_H - P_L}$), the principal can secure the first-best solution in which the compensation cost is minimized at c (the agent's monetary cost of working hard) and the agent's expected utility is zero. There is also a tradeoff between the base salary ($r_0$) and the bonus (b): when the bonus is increased, the base salary will have to be reduced accordingly to maintain the minimum payment of c. The agent's assumed risk neutrality, in fact, drives the agency cost out of this problem.

If $P_L$ > 0 as is expected, then $r_0^* = -\dfrac{P_L c}{P_H - P_L} - P_H u < 0$ , violating the minimum pay requirement (1). This means that the constraint (1) is binding for the problem (5). The principal in this case can only settle for a second-best solution.

**Proposition 2**.
The solution to the problem (5) can be characterized by

(a) For the optimal (minimum) payment to the agent, $ER_{\text{with minimum pay}} = \dfrac{P_H c}{P_H - P_L}$.

(b) For the optimal contract, $r_{\text{with minimum pay}} \equiv (r_0^{**}, b^{**}) = (0, \dfrac{c}{P_H - P_L})$.

(c) For the agent's expected utility, $EU_{\text{with minimum pay}} = \dfrac{P_L c}{P_H - P_L}$.

**Proof.**
(See Appendix)

Relative to the problem (6), the agent with a minimum pay restriction will face a higher base salary and a lower bonus, with the former more than compensates for the latter. The presence of a minimum pay restriction also means that the agent will be rewarded with extra pay in an amount equal to her extra utility gained. This is the agency cost associated with the minimum pay requirement.

**Proposition 3**.
$ER_{\text{with minimum pay}} - ER_{\text{without minimum pay}} = EU_{\text{with minimum pay}} - EU_{\text{without minimum pay}} \geq 0$.
**Proof.**

$ER_{\text{with minimum pay}} - ER_{\text{without minimum pay}} = \dfrac{P_H c}{P_H - P_L} - c = \dfrac{P_L c}{P_H - P_L}$.

$EU_{\text{with minimum pay}} - EU_{\text{without minimum pay}} = \dfrac{P_L c}{P_H - P_L} - 0 = \dfrac{P_L c}{P_H - P_L}$.

## 4. CONCLUSION

The problem of moral hazard is prevalent in organizations. Because of the principal's inability to observe what the agent is doing, combined with the agent's aversion to risk and work, the compensation contract will involve agency cost in a second-best world. The tradeoff between risk sharing and incentive inducing will not disappear.

When the agent is assumed to be risk neutral, the principal should be able to provide enough incentive to the agent without incurring extra cost to compensate for additional risk exposure, thereby eliminating the moral hazard problem. It is in this context that the minimum pay requirement is imposed, whose justification can be grounded on legal or social foundation. The principal in this scenario has to pony up the payment to the agent, an increase that contributes to the agent's higher expected utility. The agency cost is back. The minimum pay requirement restores the moral hazard problem even if the agent is risk neutral.

This paper develops a simple agency model to analyze the situation and characterizes the optimal compensation contract for both the principal and the agent. This paper looks at the single-agent case in one period. When more than one agent is involved, communication and/or monitoring may be internalized to alleviate the agency problem, which is beyond the scope of the paper.

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**APPENDIX:**

**Proof of Proposition 1**
Rewrite (6) so that the problem becomes

$ER_{\text{without minimum pay}} \equiv \underset{r_0,b}{\text{Minimize}}\ c+v$, subject to

(A1) $r_0 + P_H b = c + v$,

(A2) $b = \dfrac{c}{P_H - P_L} + u$,

$u, v \geq 0$.

With (A2) plugged in, (A1) becomes

(A3) $r_0 = -P_H(\dfrac{c}{P_H - P_L} + u) + c + v = -\dfrac{P_L c}{P_H - P_L} - P_H u + v$.

Since this is a minimization problem, the optimal solution is reached when v = 0. That is, $ER_{\text{without minimum pay}}$ = c. From (A2) and (A3), the optimal contract is $r_{\text{without minimum pay}} \equiv (r_0^*, b^*) = (-\dfrac{P_L c}{P_H - P_L} - P_H u, \dfrac{c}{P_H - P_L} + u)$, $u \geq 0$.

**Proof of Proposition 2**
When both (1) and (4) are satisfied, $r_0 + b \geq 0$ and $r_0 + P_H b - c \geq 0 + \dfrac{c}{P_H - P_L} P_H - c = \dfrac{P_L c}{P_H - P_L} > 0$. Rewrite (5) so that the problem becomes

$ER_{\text{with minimum pay}} \equiv \underset{r_0,b}{\text{Minimize}}\ r_0 + P_H b$, subject to $r_0 \geq 0$ and $b \geq \dfrac{c}{P_H - P_L}$.

Since this is a minimization problem, the optimal solution is reached with both $r_0$ and b being the smallest. This happens when $r_0^{**} = 0$ and $b^{**} = \dfrac{c}{P_H - P_L}$. The minimum payment to the agent becomes $ER_{\text{with minimum pay}} = \dfrac{P_H c}{P_H - P_L}$ and the agent’s expected utility becomes $EU_{\text{with minimum pay}} = \dfrac{P_H c}{P_H - P_L} - c = \dfrac{P_L c}{P_H - P_L}$.

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# SHOWING THE DOOR: IDENTIFICATION AND REMOVAL OF SELF-EXCLUDED PROBLEM GAMBLERS IN AUSTRALIA

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## ABSTRACT

*A key aspect of self-exclusion programs for problem gamblers in Australia and the United States is the signing of a deed, embodying the aspirations and obligations of a self-identified problem gambler who wishes to exclude himself or herself from nominated gaming areas. A central aspect of this deed, and the legal issues more generally, is the issue of forcible removal from the premises identified in the instrument. This question is at the heart of enforcement of the expectations and aspirations of self-exclusion programs. In legal terms the issue is an old one, sitting within the law of trespass, assault and battery. In practical terms, the issue affects the key stakeholders in self-exclusion schemes: the gaming establishment, its staff and the self-excluded problem gambler. This paper examines the concept of 'reasonable force' in the removal of the problem gambler from nominated premises*.

***Keywords:*** *Problem gambling; self-exclusion programs; trespass; 'reasonable force'*

## 1. INTRODUCTION

Gambling is largely a state matter in Australia and each one has its own laws governing it. There is, nonetheless, a considerable degree of consistency across the laws and practices which have developed in response. Since about half of the country's 200,000 electronic gaming machines (EGMs - slot machines in the US) are in the State of New South Wales (NSW), and therefore about half of all money is lost there as well, an effort was made by the politicians in that state to deflect the oft-made criticism that they were the 'gambling state'. Measures were introduced via the *Gaming Machine Act 2001* to restrict the numbers of EGMs to their then current levels and even to reduce them overall marginally. The state's only casino, Star City in Sydney, has 1500 machines while the vast majority of the 1400 registered clubs and over 2000 hotels each have somewhere between fifteen to many hundreds of them.

Social and community concern has been reflected in compulsory measures through legislation. One key example is the inclusion in legislation of a requirement for the provision of programs of self-exclusion, as part of 'a wider context of strategies, policies and tools able to be used to reduce harmful effects that problem gambling can have on the individual and the community' (GRP, *Evaluation of Self-Exclusion Programs* 2003).

A 'self exclusion scheme' is a scheme in which a person is prevented, at his or her own request, agrees to be prevented from entering or remaining on any area of a hotel or registered club that is nominated by the person. The *Casino Control Act 1992* (NSW) required the casino operator to make arrangements for people to exclude themselves. A similar requirement was imposed on hotels and registered clubs in October 2002 under the *Gaming Machines Act 2001* (NSW) and the *Gaming Machines Regulation 2002* (NSW). The three principal self-exclusion schemes approved by the Minister for Gaming and Racing in NSW under the Act are: *BetSafe* (applying to approximately 45 clubs); *ClubSafe* (operated by Clubs NSW); and *GameChange* operated by the Australian Hotels Association in NSW, known as AHA(NSW) (IPART Report, 2004). A wide variety of self-exclusion schemes also operate in gaming machine venues across Australia with similar core requirements (SEAG, *Resource Paper*, 2005; GRP, *Evaluation of Self-Exclusion Programs* 2003).

The efficacy of the self-exclusion program as a harm minimisation strategy depends upon the effectiveness of enforcement. The studies so far indicate that the principal points at which self-exclusion programs are breaking down is the point of detection and the point of enforcement of expectations as expressed in the act of self-exclusion (GRP, *Evaluation of Self-Exclusion Programs* 2003; SEAG, Resource Paper, 2005; Croucher, et al, 2006).

The authors have been engaged in a project that seeks to evaluate and ultimately improve the efficacy of self-exclusion programs for problem gamblers. They have participated in a pilot project, supported by grant monies provided by a partnership of AHA(NSW) and Macquarie University through an External Collaborative Grant (Croucher and Croucher, 2005; Croucher et al, 2006). The pilot project has involved as one of its key elements an analysis of the legal implications of the existing scheme of self-exclusion, in particular the implications and effectiveness of the deed of self-exclusion. A key aspect of this document, and the legal issues more generally, is the issue of forcible removal from the premises identified in the instrument. This question is at the heart of enforcement of the expectations and aspirations of self-exclusion programs. It is part of the much wider project which is focused upon improving the efficacy of such programs across the board.

In legal terms the issue is an old one, sitting within the law of trespass, assault and battery. In practical terms, the issue affects the key stakeholders in self-exclusion schemes: the gaming establishment, its staff and the self-excluded problem gambler.

## 2. AGREEING TO EXPULSION

A central aspect of self-exclusion schemes is that a person may be removed from the premises that have been identified in the self-exclusion deed. Amongst other things the deed authorises the AHA (NSW), the licensee or other person of authority at the designated venues to undertake certain actions during the period of self-exclusion. A photograph of the self-excluded person may be taken as a means of identification and it is stated that this may be used as needed in connection with the self-exclusion program, including the retention and display of the photograph at the designated venues in an area accessible by venue staff but not the general public. The self-excluded person may be asked to leave the restricted gaming areas at the designated venues, and, if the person refuses to leave, the industry body may take such action as is necessary (including the use of reasonable force) to remove the self-excluded person from the restricted gaming area and to prevent the person re-entering the area.

## 3. REMOVAL FROM THE PREMISES

### 3.1 Authority

Those who enter hotels or clubs do so as licensees, entering the premises with permission. Statute regulates those who are permitted to do so, for example, by defining the minimum age of those permitted to be upon licensed premises. Across Australia this minimum age is 18 years. There are provisions in the gaming and liquor legislation with respect to the removal of persons in particular circumstances. There are also provisions of the general law with respect to removing trespassers or those whose permission to be on premises has been terminated.

Section 49(4) of the *Gaming Machines Act* 2001 states that it is lawful to remove a self-excluded gambler from designated areas 'using no more force than is reasonable in the circumstances'. The *Liquor Act* 1982 (NSW) includes similar provisions in relation to the exclusion or removal of persons from licensed premises, for example a person who is 'intoxicated, violent, quarrelsome or disorderly' (s 103(1)(a)). In such cases 'such reasonable degree of force as may be necessary' may be used (s 103(3A).

Such provisions spell out the general position that is otherwise applicable as a matter of common law for the self-help remedy of removal of trespassers. Trespass to land is committed by directly and intentionally entering or remaining upon land in the possession of another without consent. Where a person enters with permission but the permission (licence) is later revoked, then the entrant becomes a trespasser. A recent exposition of the relevant law is found in *Eron Broughton v Competitive Foods Australia Pty Ltd & Ors* (2005) in the judgment of Justice Handley (at para 4-5):

> The familiar saying that an Englishman's home is his castle is also true of the home of an Australian and true of land and buildings owned and occupied by corporations. No one has a right of entry on the land of another except with the invitation or permission of the owner or occupier or authority expressly conferred by law. Subject to these exceptions the owner or occupier is legally entitled to refuse entry as he sees fit and to use reasonable force to prevent unauthorised entry.

> An owner or occupier is also entitled to ask anyone who has been invited or permitted to enter to leave. An entrant who is asked to leave is bound to do so forthwith but must be given the necessary time to do this. An entrant who has been asked to leave cannot be treated as a trespasser unless he ignores the order or fails to comply within a reasonable time. However in those events the owner is entitled to use necessary but reasonable force to eject the trespasser.

In the context of self-exclusion programs, the participant elects to be prevented from entry or remaining in designated areas. In terms of the law of trespass, this is effectively saying to the landowner to revoke the permission otherwise extended to persons (outside the disqualifications set out in the *Liquor Act*). It is a self-enlisted revocation of the licence to enter.

The scheme in s 49 of the *Gaming Machines Act* 2001 and regulation 47 of the *Gaming Machines Regulation* 2002 with the emphasis upon the lawfulness of removal from the designated areas using no more than reasonable force amounts to a treatment of the participant in self-exclusion schemes as trespassers in relation to the areas so designated in the instrument of self-exclusion. By virtue of the requirement of 'preventing a participant from withdrawing from the scheme within 3 months after requesting participation in the scheme' (reg 47(2)(g)), it would seem to follow that the status of trespasser is to continue for 3 months after a person has self-excluded.

After the initial 3 month period the self-exclusion deed itself specifies certain conditions for the revocation of the deed. Although the regulations stipulate a period of three months as mandatory self-exclusion, this is not exclusive of a longer period, as it is stated that the requirements set out in reg 47 that 'constitute the minimum requirements for a self-exclusion scheme'.

The participant who signs the self-exclusion deed elects to be treated as a trespasser within the terms set out in the instrument. Although the participant may revoke the deed, he or she has agreed to certain conditions for this to occur. If the industry body (or 'responsible person' within the terms of the Act) s 49(1) definition of 'responsible person') seeks to remove a participant during the period of self-exclusion some protection is spelled out in the legislation in s 49(5), which provides that: 'No civil or criminal liability is incurred by a responsible person for a hotel or registered club (or by the registered club itself): (a) for any act done or omitted to be done in good faith, and in accordance with this section and the regulations, to or in respect of a participant, or (b) if a participant enters or remains in the nominated area of the hotel or club.'

### 3.2 What is 'reasonable force'?

A key question to consider is what amounts to 'reasonable force'? It has been defined as meaning 'That degree of force which is not excessive but is fair, proper and reasonably necessary in the circumstances. At common law, a person is entitled to use reasonable force in self-defence or to protect another person where there is actual danger or a reasonable apprehension of immediate danger.' (*Concise Australian Legal Dictionary,* 335). What is reasonable force depends on the particular circumstances of each individual case. The concept of 'reasonable force' may also depend on its context: assault, battery and trespass to land cases may involve differences of interpretation from that used, for example, in criminal law for self-defence. If more than 'reasonable force' is used, then the person removed may claim that there has been a 'battery': a direct act by the defendant causing bodily contact with the plaintiff without his or her consent.

The decision in *Horkin v North Melbourne Football Club Social Club* (1983) is instructive. In this case the plaintiff was asked to leave the premises. The evidence included reference to his being in a part of the club that he was not supposed to be in as well as the quantity of alcohol consumed by him. It was accepted on both sides that once the plaintiff's licence to be in the premises was revoked, this was effective to transform him into a trespasser once a reasonable time had elapsed after the revocation of the licence. At this point the defendant was entitled to use such force as was necessary to expel him from the premises (at 155).

After reviewing conflicting evidence as to the expulsion from the premises, Justice Brooking concluded that the plaintiff's licence to be there was revoked before any employee applied any force to the body of the plaintiff. He was satisfied that the plaintiff had been asked to leave the premises and given a reasonable opportunity for doing so by a duly authorised person before any force used. He had become a trespasser by the time of the alleged battery. Hence, what would otherwise have been a battery was a justifiable use of reasonable force necessary to remove him from the premises.

But the facts went further, as the plaintiff injured his elbow falling onto concrete. Was the plaintiff propelled violently (as he claimed), or did he stumble after he had left (as the defendant claimed)? Justice Brooking concluded, as a matter of fact based on his assessment of the evidence, that the plaintiff was violently propelled through the doorway by one or more of the defendant's employees and that this caused him to fall onto the concrete and dislocate his elbow. This use of violence was, therefore, unlawful, as not being necessary for the removal of the plaintiff from the premises (at 157). The plaintiff was the victim of a battery for which the defendant was in law responsible. The injury was therefore compensable in damages.

## 4. PILOT SURVEY

### 4.1 The questions

During 2003 - 2005 a pilot telephone survey was conducted of 130 self-excluded gamblers to obtain various characteristics of their behaviour relevant to the project (Croucher et al, 2006). This survey, usually conducted in the evening, was particularly difficult owing to the transient nature of the respondents, many of whom frequently changed addresses, phone numbers after, in some cases, having lost their jobs, home, family and all their money. There were some fifty-two questions, most simply requiring multiple choice answers, but others left open-ended for individual comments. The time taken to conduct each survey varied between 15 and 40 minutes, the longer ones due to the respondent simply wanting to expand on their answers or chat to the interviewer about their life in general.

The questions of interest to this paper were those relating to whether they had attempted to enter a hotel gaming room from which they had been self-excluded. This was important since, if there was little evidence at attempted re-entry, then the issue of "reasonable force" being used to remove them would be largely irrelevant. The three survey questions of interest are shown below. Note that it was also essential to also determine if they had been identified and how many times they had breached their contract.

Respondents were asked these three questions only if they had indicated earlier in the survey that they had attempted to enter a self-excluded hotel at least once.

1) Since joining the self-exclusion program, how many times have you gambled at a self-excluded *hotel* gaming room?
    1. □ Once
    2. □ 2 – 4 times
    3. □ 5– 9 times
    4. □ 10 or more times
2) When breaching your self-exclusion at a hotel, were you ever identified/approached by hotel staff and asked to leave the gaming room?
    1. □ No (*Skip Question 3*)
    2. □ Yes
3) How many times were you identified/approached and asked to leave a gaming room?
    1. □ Once
    2. □ 2 – 4 times
    3. □ 5 – 9 times
    4. □ 10 or more times

### 4.2 The responses

The pilot survey revealed that 79% of men and 80% of women had gambled on slot machines while on a self-excluded program with half of the men and one-fifth of the women doing so at a venue from which they were specifically self-excluded. If they did so at all, self-excluded gamblers most likely break their contract on at least ten occasions. About 1 in 3 of both sexes had broken their contract within a month of signing with the most likely time being between 1 and 6 months. On 56% of occasions were self-excluded men identified by hotel staff with a figure of 71% for women. So far there has been no evidence or complaints that undue force has been used to eject any of those found in breach, but as the numbers detected increase this seems only a matter of time.

## 5. REMARKS

During 2007 and 2008 the authors are heading a research team to survey up to 1000 self-excluded gamblers to gain a deeper understanding of the effectiveness of the program. As part of this process, innovative technology will be employed to drastically increase the likelihood of detection of those who are in breach. The issue of the best means of their removal will become an extremely important matter to resolve and one that will require careful consideration. As the principal points at which self-exclusion programs are breaking down is the point of detection and the point of enforcement of expectations as expressed in the act of self-exclusion, measures which enable the identification of the person who seeks to enter designated gaming areas in breach of their undertakings, are far more effective strategies in enforcing the expectations of the self-excluded gambler. Intercepting them first, rather than having to expel them is the much better aim. If this is achieved then the issue of 'reasonable force' need not be raised at all.

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# TRANSPARENCY OF FINANCIAL INFORMATION TO IMPROVE ETHICAL CLIMATE: TRUST IS THE LANGUAGE OF BUSINESS

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## ABSTRACT

*Opinions differ regarding the post-Enron regulatory landscape vis-à-vis actual improvements to the quality of financial reports. But the fact remains that there are new, and sometimes staggering, costs associated with regulatory compliance. There are also unique and difficult complications with evolving corporate governance models. And perhaps most importantly, there has been a significant re-focus on the content, quality and veracity of financial information that has not been experienced in America since the Securities Act of 1933. These realities, coupled with the exciting promise of the availability of financial data obtainable with new enterprise-wide information systems capabilities, have created an opportunity, and incentive, to leverage the transparency of financial information to increase the ethical climate in an organization. The purpose of this study is to demonstrate that an increase in the transparency of financial information will increase an organization's ethical climate. By placing integrity at the nexus of improvement initiatives, and by "opening the books" to the entire organization, an opportunity exists to reduce unethical rule-bending, manipulation of reports, and heroic interpretation of Generally Accepted Accounting Principles, which have been key elements of the wave of high profile business failures. The benefits of this transparency of financial information will help mitigate the cost of regulatory compliance while increasing the ethical climate in an entity. Suggestions for future study provide opportunities to apply these findings to other organizations.*

*Opinions, conclusions and recommendations expressed or implied within are solely those of the authors and do not necessarily represent the views of USAFA, USAF, the DoD or any other government agency.*

***Keywords:*** *Transparency; Financial Information; Ethics*

## 1. INTRODUCTION

*"A post-Enron regulatory environment has been like a fire department trying to devise a fire code that is so all-encompassing that they'll never have to put out another fire."* (Leibs, 2004)

Skepticism of the quality of accounting information brought on by the dot-com meltdown and some of the largest accounting scandals and bankruptcies in history, has turned the accounting community upside down while degrading public confidence in our financial markets. In response, improving the quality of financial information and reports has become the highest priority of academicians and practitioners alike. Stricter laws and regulations designed to improve corporate governance, internal controls, transparency of financial information, and regulatory oversight, have put everyone from the boards of directors to the rank and file employees on the front line in the battle to rebuild corporate credibility.

Today's users of accounting information insist on nothing less than accuracy, timeliness and relevancy. Specifically, they demand honesty, integrity and ethical conduct in all business activities. Never again will Americans tolerate the type of behavior demonstrated by external auditors, boards of directors, and employees at all levels, vividly showcased during high profile scandals such as those of Enron, Tyco and WorldCom. But it seems that investors want reassurance that companies do more than the minimum in terms of regulatory compliance. Demanding stakeholders expect management and boards of directors to anticipate intra-firm problems, show evidence of strong internal oversight, and support ongoing review and improvement efforts. While there are ample time-proven external quantitative metrics (e.g., financial ratios) which can be used to determine if a firm is satisfying external stakeholder requirements and desires, measures for internal improvement have remained elusive.

The purpose of this study is to propose a model that firms can use to assess internal improvements likely to result in internal stakeholder satisfaction. Specifically, we suggest that increasing the transparency of financial information within a firm will improve worker trust in management and create a stronger ethical climate within the organization. It is this assessment of a firm's ethical climate that we believe can be used to assess internal improvements and provide evidence of this improvement to both internal and external stakeholders.

## 2. EFFORTS TO ADDRESS CORPORATE FINANCIAL SCANDALS

The response to the loss of confidence in public companies' financial information was swift and pervasive. Signed into law on July 30, 2002, the Sarbanes-Oxley Act (SOX) is perhaps the most far-reaching piece of US legislation impacting corporate governance, financial disclosure, and public accounting practices since the US Securities Act of 1933 and the Securities and Exchange Act of 1934 (AICPA, 2004). SOX placed significant new responsibilities on boards of directors and management of public companies, enhanced the power of the Security and Exchange Commission (SEC), and created the Public Company Accounting Oversight Board (PCAOB). SOX also mandated numerous provisions concerning corporate responsibility and enhanced financial disclosure, transparency of financial information, assessment of internal controls, as well as other guidelines covering the detection and punishment of white-collar crime—all focused on restoring public confidence in financial information (AICPA 2004).

SOX basically had a two-fold objective—to restore confidence in the financial reporting model as well as to establish confidence in the accounting profession. Although an unprecedented level of cooperation by the government, industry, and accounting professionals has delivered measurable results with regard to the first objective, the latter objective of restoring confidence in a profession, whose integrity and independence have been questioned, is much more difficult. But unless investors believe that financial statements represent the true financial condition of a firm and an accurate description of the results of operations, all the rules and penalties in SOX will be pointless.

Some speculate that recent highly publicized corporate meltdowns were caused by poor ethical climate (Mulki, Jaramillo & Locander, 2006). One outcome of this speculation is the belief that increased legislation coupled with the threat of sanctions will improve firms' ethical climate and the quality of their financial reports while reestablishing the public's confidence in the accounting profession. But while incarceration is a time-proven means of influencing behavior, some would argue that more stern punishments are not the sole answer to America's corporate problems (Leibs, 2004), as not everybody is unethical. There are some that would argue that deficient accounting, financial reporting, audit standards, or wide-spread ethical lapses were not necessarily common problems across all firms, and consequently, increased legislation will not inevitably improve the quality of reports or the independence of accountants. People with this orientation would feel that the results of SOX are lots of companies spending a lot of money to fix something that was not necessarily broken in their firms.

We contend that promoting a healthy organizational climate may be as effective as formal compliance programs or hard sanctions. In fact, a recent National Business Ethics Survey by the Ethics Resource Center revealed that although formal ethics and compliance programs have some impact, organizational culture has the greatest influence in determining outcomes (Gebler, 2006).

## 3. THE PROPOSED RESEARCH MODEL

Although there exists a wide range of opinions on SOX's usefulness in restoring confidence in financial reporting mechanisms and establishing confidence in the accounting profession, few would argue that the root cause of the scandals triggering the public's distrust in firms' financial reporting usually boiled down to workers' greed and dishonesty. Although controlling workers' greed is difficult to address in most firms, SOX provides a starting point for reducing worker dishonesty.

Meeting the requirements of SOX involves costs that are staggering for most firms. Large companies average $16 Million a year for SOX compliance (WorldatWork, 2004) while GE alone spends over $30 Million a year (Dzinkowski, 2006). But since SOX has encouraged a significant re-focus on the content, quality and veracity of financial information that has not been experienced in America since the Securities

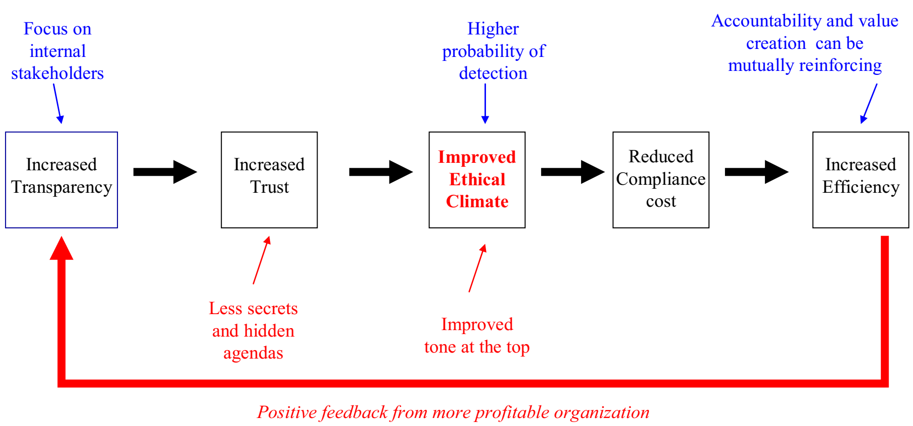
Act of 1933, large expenses should not be a surprise.

These improvements, coupled with the availability of data using new enterprise-wide information systems capabilities, have created an opportunity to leverage the transparency of financial information, mandated by SOX, to increase the ethical climate in an organization. But an increase in ethical climate goes well beyond creating a corporate code of ethics and protecting whistle-blowers as required by SOX. For example, consider the fact that Enron had a code of ethics (Ferrell, 2002). While research has demonstrated that good corporate citizenship equates to long-term profitability (Ferrell, 2002), it is argued by some that before the collapse of Enron, many of America's largest companies' corporate codes of ethics were merely window dressing. Some feel even SOX-related stringent internal control requirements have merely become "…an expensive, short-term check-the-box exercise" (Reason, 2005). Only by assuming the new mantra that the "tone at the top" is one of the critical components to the ethical climate of an organization, and only by defining a culture of ethics that all employees are expected to embrace, will the ethical climate actually improve (Verschoor, 2004). This is why we suggest that firms' efforts should maximize SOX's potential to also improve internal operations as well as internal stakeholder support and loyalty. Specifically, we propose that one of the major tenants of SOX, increased transparency of financial information, as related to internal stakeholders (i.e., employees) will lead to increased worker trust in management and an improved ethical climate. Further, we believe that an improved ethical climate within a firm will ultimately reduce the costs required for SOX compliance and increase the overall efficiency of workers and operations in the organization.

### 3.1 The Relationships in the Model

Our proposed research model appears in Figure 1.

**FIGURE 1. PROPOSED RESEARCH MODEL**




In order to focus on firms' internal operations, we define the transparency of financial information as sharing financial information (as well as the components of information and methods used to comprise this information) with all workers in an organization. It includes giving internal stakeholders as much relevant information as possible without compromising an organization's competitive advantage. The act of sharing financial information with members that previously were not privy to such intimate details of their organization's operations may signal a level of trust placed in the employees by management (Pfeffer, 1998), as organizations have no guarantee that the workers will use this shared information to act in the best interest of the organization's management team and shareholders (i.e., one of the premises of agency theory). However, it is the act of sharing proprietary information that may encourage workers to trust their managers. Previous research provided evidence of a positive relationship between the sharing of financial information and enhanced employee trust in management in a study of workers in a financial services firm (Ferrante, 2006).

The ethical climate of an organization has been conceptualized as that part of a firm's corporate culture that sets its expectations regarding appropriate courses of action (McAlister, Ferrell & Ferrell, 2005). Workers' perceptions about right and wrong behavior as well as top managers' ethical behavior and their support of these behaviors impact an organization's ethical climate. Specifically, if workers perceive that the top management team encourages ethical behavior, they are more likely to exhibit ethical conduct in the workplace. Whereas researchers have shown that ethical climate is an antecedent of workers' trust in management (Mulki, Jaramillo & Locander, 2006), we propose that the relationship is reversed, and that it is workers' trust in management that encourages their ethical behavior.

We also suggest that workers in ethical organizations will monitor each others' behavior (to insure appropriate conduct) and increase the detection of unethical behavior. It is this act of monitoring coworkers' efforts that will help reduce compliance costs ushered in by SOX and other recent legislation. We anticipate that decreased costs will ultimately increase organizational efficiency through value creation, *ad infinitum*, as reduced costs will reduce the output-to-input ratio for evaluating efficiency. Practitioners contend that firms would rather do business with ethical organizations and suggest that these organizations are more efficient and more profitable (Ferrell, 2002).

## 4. SUGGESTIONS FOR FUTURE RESEARCH

We speculate that an increase in the ethical climate of American firms will ultimately restore and sustain public confidence in financial statements as well as the accounting profession—presumably the two most important goals of SOX. As organizations that do not have a strong ethical foundation are finding it difficult to meet these demands, improvements to ethical climate are worthy of investigation. This is precisely why the focus of our proposed model is on leveraging the new requirements for increased transparency of financial information to improve ethical climate. Future testing of the model could examine whether the benefits of increased transparency of financial information to internal stakeholders will mitigate the cost of regulatory compliance, primarily through improved ethical climate and business processes. We also suggest testing the model in multiple industries in order to generalize the results. We hope future research will confirm our speculation that truth via positive ethical climate is indeed the language of business.

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# MEASURING CUSTOMER BUYING INTENTION IN THE UNITED ARAB EMIRATES MOBILE PHONE MARKET: CASE IN FOCUS SIEMENS

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## ABSTRACT

*The study through which extensive research is undertaken, analyzed the market of mobile phones in the UAE. Siemens is used as the base comparative brand (in specific its "Designed for Life" mobile phone) in conducting the study relating to its new positioning strategy. The study is supported by extensive use of different modeling techniques such as Multivariable Attribute Attitude Model (MAA) and the model for Behavioral Intention (BI), also known as Fishbein I and Fishbein II. The modeling techniques are extensively used in order to comprehend how the consumers are responding toward Siemens new "Designed for Life" mobile phone and to elucidate the purchasing behavior of the actual mobile phone users towards Siemens. They are also used to help comprehend on how to reduce the gap of Sales between Siemens and its competitors such as Nokia, as such enabling Siemens to achieve a significant profit that impacts on Market Share. A questionnaire constituting a set of 30 questions was administered through survey interview with a sample of 219 people. All those interviewed are 18 and above in terms of age bracket and encompasses people from different national origins residing in the UAE. The study found that people tend to purchase Siemens if it is to offer the characteristics what the consumers actually sought for, before they decide on purchasing any mobile phone. New Product Specification Awareness (NPSA) is a very critical factor in establish Siemens brand in the mobile market. Siemens is unable to reach the consumers with its new strong brand identity campaign. Besides, Siemens is found to have left out a large population comprising of the younger generation unaware of its new product. By doing so, Siemens has failed to lure a large category of consumer to buy the brand with the new identity " Designed for Life". Nevertheless, the sample failed to show significant increase in their purchasing decision when choosing between Siemens and other mobile phones such as Nokia or Sony-Ericsson.*

**Keywords:** Comparative Branding, New Product Specification, Multivariable Attribute Attitude Model, Buyer Intention, Fishbein I, Fishbein II

## 1. INTRODUCTION

The use of mobile phone has become an integral part in Middle East where the total number of mobile phone users is increasing at a very high rate. It has become almost a matter of cachet than necessity for people to have mobile phones in this region. Mobile phone companies are coming up with New Design, Style, and Functionality quite often to stay in the competition given the fact that they are trying to establish their positions by increasing their sales. People are frequently changing their mobile phone sets for which every phone company is trying to prove its uniqueness and compatibility in the market by offering what they claim to be more competitive and differentiated than those of their competitors.

The following study through which extensive research is undertaken, analyzes the market of mobile phones in UAE in which case, Siemens is taken as an ideal brand of a mobile company to conduct the research on due to its new positioning strategy. The study emphasizes on where Siemens with its new positioning strategy is standing at in UAE at the moment and where it is heading to, embossed with a slogan "Designed for Life". The study is supported by extensive use of different modeling techniques such as Multivariable Attribute Attitude Model (MAA) and the model for Behavioral Intention (BI), also known as Fishbein I and Fishbein II. These two modeling techniques are extensively used in order to comprehend how the consumers are responding toward Siemens new "Designed for Life". The study will further elucidate the purchasing behavior of the actual mobile phone users towards Siemens.

The main objectivity of the study carried out is to analyze how mobile phone companies such as Siemens can gain a significant increase in their sales with a profit impact on its market share in United Arab Emirates. The study is supported by extensive market analysis for other competitors such as Nokia and

Sony-Ericsson in the UAE market through responses received from actual mobile users in UAE. This will gives researcher, a broader view of making precise analysis to see the existing gap between Siemens and its competitors in terms of Sales.

The study is also carried out to help comprehend how to reduce the gap of Sales between Siemens and its competitors such as Nokia, enabling Siemens to achieve a significant profit that impacts on Market Share.

## 2. LITERATURE REVIEW

Previous research work and literature warrants the study to be undertaken.

### 2.1 Setting a Competitive Advantage

Setting a competitive advantage is one of the most important factor for any product to be successful in the market whilst facing fierce competition from competitors.

Every product in the market has to have a strategy of competitive advantage over its competitors. The essence of strategy is winning. In the business arena, winning means creating superior customer value and dominating in the global market. To win without fighting is perhaps an ideal situation in business, or for that matter in any competitive endeavors and activities, whether in war, sports, politics, and businesses. “To defeat the rivals forces without engaging in fighting is the supreme among all strategies”, observed by Sun Tzu in his masterpiece on strategy, The Art of War. Such as insightful observation has inspired strategies for centuries and has also had a tremendous impact on contemporary research and practice in the field of strategic management. It is important to clarify that to win without fighting is a notion of ideal type. In reality, firms by and large compete against each player in the same business (Hoogenberg, 2004).

Direct competition is defined here as direct and face to face rivalry with competitors in an escalating and cut throat way, using the similar or the same competitive weapons and practiced as those used by rivals, price war or competitive imitation. Such price could be regarded as homogeneous competition. To win without competing therefore, refers to the situation where a firm could create a better customer value and achieve superior performance by not engaging in direct fight with rivals, current or potential. The firm that pursues such a strategy is still somehow subjected to competition, a heterogeneous type of competition with rivals, with rivals adopting different competitive weapons and practice (Neal, Quester & Hawkins, 2005).

Based on findings from previous studies, while winning without competing can be practiced as the guiding principal at the grand level of a firm’s strategy, this style of strategy does not necessarily mean to totally exclude occasional competition-even direct engagement with rivals on a tactical level and in specific competitive maneuvers. That is, in the actual implementation of the strategy, it may not always be possible to avoid competing with rivals, although the general strategy of to “ win without fighting” attempts to eliminate the need for competing and focuses instead on establishing competitive advantage that will secure formidable market positions and scare off any potentially direct and aggressive engagement by rivals (Arnould, Price & Zinkhan, 2004).

The ultimate concern in relation to the firm strategy is the long-term survival and success of the firm. It focuses attention to a fundamental question; the strategy deployment with which firms differ in performance through time. In the game of business competition, winners enjoy superior performance over rivals (Butcher, 1994).

In UAE where Nokia is leading the market by a vast margin, it will be quite interesting to see how rivals such as Siemens can have more sales in the market by competitive product or price. As Siemens is claiming to be more competitive by adapting new positioning strategy, it will then lie with Siemens, UAE to show what they are offering in terms of competitiveness, out pasting Nokia and increase its sales to have a positive impact on the market share.

## 2.2 Promotion

Every product no matter how big market share it possesses in any market will have to go through the process of promotional strategy. There are four major types of promotions—advertising, sales promotions, personal selling, and publicity. Like all marketing strategies, promotions are experienced by consumers as social and physical aspects of environment, that may influence consumers' affective and cognitive responses as well as their overt behavior. From a marketing perspective, the importance of promotion cannot be overstated. Most successful products and brands require promotion and maintain a differential advantage over their competitors (Liu, 2002). Ideally, marketing managers should develop a coherent overall promotion strategy that integrates the four types of promotions into an effective promotion mix.

Previous research findings have identified five types of communication effects that promotion information can have on consumers. These effects can be ordered in a hierarchical sequence of events or actions that are necessary before consumers can or will purchase a brand. From the marketing manager's perspective, these effects can be treated as a sequence of goals or objectives for promotional communications. Five sequences have been identified: consumers must have a recognized need for the product category or product form; consumers must be aware of the brand; consumers must have a favorable attitude towards the brand; consumer must have an intention to purchase the brand and consumers must perform various behaviors to purchase the brand. Before the consumers make any brand purchase, consumers must recognize (feel) a need for the product category or the product form. Only the consumers who have recognized the self-relevance of the product and have formed a general intention to purchase it are in the market for product. Consumer's intention to buy a brand is based on their attitudes towards buying and their social belief that others want them to buy. In order to stimulate a category need, marketers need to create beliefs about the positive consequences of buying and using the product category. Marketers usually use advertising to stimulate a category need among additional consumers, although publicity and personal selling can also influence category need to some extent. Since the 1960s, much research has documented the pervasive and importance of Word-of-Mouth (WOM) on consumer behavior. In particular, customers pay more attention to WOM; it is perceived as credible and custom-tailored and generated by people who are perceived as having no self-interest in pushing a product (Neal et al). Given the importance of WOM, a more proactive stance should be taken to seek ways to manage and influence it. One method could be through the use of incentives as a motivator to provide the WOM. Since the satisfied consumer would generate positive WOM, an incentive might enhance the satisfaction – WOM relationship. These strategies should be designed to convince consumers that the product category or form is associated with important end goals and values.

Consumers are likely to have an attitude towards every brand they purchase. Each promotion strategy can influence consumers brand attitudes, but the specific communication objective depends on consumer's current attitude toward the brand. More specifically, for a new or unfamiliar brand, the goal might be to create a brand attitude. For an already popular brand, marketers may be content to maintain existing favorable brand attitude. For brands with neutral or slightly unfavorable attitudes, marketers may wish to increase the existing attitude.

Siemens mobile has a global market share of 10% (Siemens Mobile Middle East Report 2005). How ever, Siemens is maintaining a better market share in UAE with 16% standing, with Samsung in the second position after Nokia. Brand awareness in general would not serve the competitive purpose as Siemens already has a large number of users. It will be more viable to promote the New Product Specification Awareness by letting the consumers know what new siemens is offering them, how Siemens new product differs than that of the previous one; why " Designed for Life" is more appealing than the old slogan "be inspired". As such, Siemens New Product Specification Awareness (NPSA) will be a key factor to establish in order to build up stronger brand image.

Findings from previous research also suggested that most promotion strategies are intended by marketers to increase or maintain the probability that consumers will buy a brand (increasing Behavioral Intention). Alternatively, Behavioral Intention (BI) can be developed through an integration process at the time of the decision choice, usually at the store or shopping outlets. An intention to buy a brand is based on a consumer's attitude toward buying the brand as well as the influence of Social Norms (SN) about what other people expect.

The study is determining Behavioral Intention (BI) of the consumers towards Siemens mobile in UAE. This decision making process is influenced by the many characteristics of different mobile brands in the UAE.

### 2.3 The Multi Attribute Attitude (MAA) Model

It is essentially important to know what others beliefs are toward any product in order to understand what might the customer driven factors be for a successful marketing strategy, for any product in the market. One of the modeling techniques used in order to capture customers attitude toward specific product/s is the MAA Model, also known as the Multi Attribute Attitude or the Fishbein 1 Model.

A great deal of marketing research has focused on developing models for predicting the attitudes produced by this integration process. These are called Multi Attribute Attitude models because of their focus on consumer beliefs and on multiple product or brand attitude. Of these, Martin Fishbein's model has been most influential in marketing (Peter, Jerry & Olson, 2005).

The key proposition of the Fish Bein theory is that the evaluation of salient beliefs causes the overall consumer attitude. Simple stated, people tend to like objects that are associated with "good characteristics and dislike objects they believe have bad attributes. In Fishbein's Multi Attribute Attitude (MAA) Model, over all attitude towards an object is a function of two factors: the strength of the belief associated with the object and the evaluation of those beliefs. The model proposes that:

$$\mathbf{A_0 = \sum_{i=1}^{n} b_i e_i}$$

where,

**$A_0$=** attitude toward the object
**$b_i$ =** the strength of the belief that the object has attribute i
**$e_i$ =** the evaluation of attribute i
**n =** the number of salient beliefs about the object

This Multi Attribute Attitude model accounts for the integration process by which product knowledge (the evaluation and strengths of salient beliefs) is combined to form an overall evaluation or attitude. The model, however, does not claim that consumers actually add up the product of belief and strength and evaluation when forming attitude towards objects. Rather, this and similar models attempt to predict the attitude produced by the integration process; they are not meant to describe the actual cognitive operations by which knowledge is integrated.

The study is considering the MAA or Fishbein 1 model to be used as a tool for investigating attitude formation and predicting attitude.

### 2.4 The Theory of Reasoned Action (Fishbein II)

According to (Kumar, Aaker & Day, 2002), Fishbein recognized that people's attitude toward an object may not strongly or systematically related to their specific behaviors. Rather, the immediate determinant of whether consumers will engage in a particular behavior is their intention to engage in that behavior. Fishbein modified and extended his MAA or Fishbein 1 model to relate consumers' beliefs and attitudes to their behavioral intentions.

The model is called the Theory of Reasoned Action or Fishbein II Model, because it assumes that consumers consciously consider the consequences of the alternative behaviors under consideration and choose the one that leads to the most desirably consequences. The outcome of this reasoned choice process is an intention to engage in the selected behavior. This behavioral intention is the single best predictor of actual behavior. In sum, the theory of reasoned action proposes that any reasonably complex, voluntary behavior (such as that of buying a mobile phone) is determined by the person's intention to perform that behavior. The Theory of Reasoned Action, however, is not relevant for extremely simple or involuntary behaviors.

The Theory of Reasoned Action or Fishbein II Model can be presented as follows:
Where,

$B - BI = A_{act}(w_1) + SN\ (w_2)$

BI = Consumer's intention to engage in that behavior

$A_{act}$ = Consumer's attitude towards engaging in that behavior

SN = Subjective norm regarding whether other people want the consumer to engage in that Behavior or Social Norms

$w_1$ and $w_2$ = Weights that reflect the relative influence of the $A_{act}$ and SN components on BI

According to this theory, people tend to perform behaviors that are evaluated favorably and that are popular with other people. They tend to refrain from behaviors that are regarded unfavorably and that are unpopular with others.

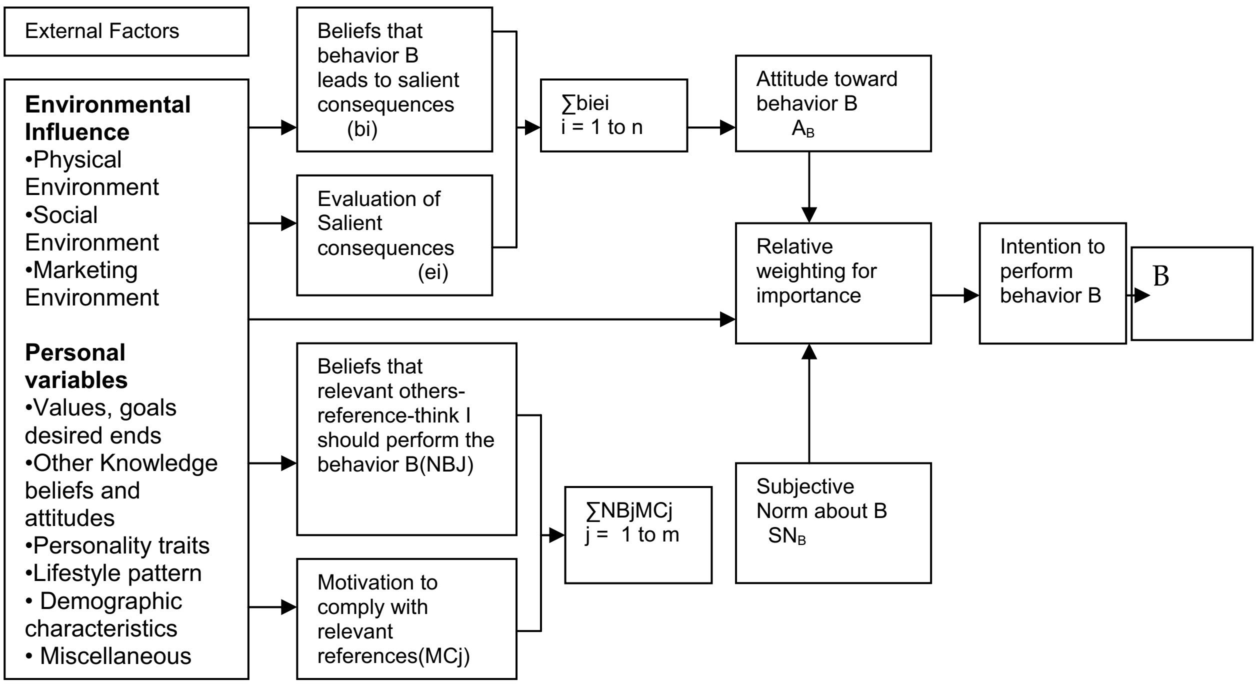


**Figure 1: Theory of Reasoned Action or Fishbein II Model**

The Theory of Reasoned Action is helping the study to determine if Siemens sales are able to increase based on their new positioning strategy. In other words, the Behavioral Intention (BI) is able to analyze and find out the purchasing habit of the consumers by using the Fishbein II Model.

**2.5 Balanced Theory**

People get influenced by loved ones quite frequently even while purchasing a product. They take into consideration suggestions provided by close friends/relatives.

According to the Balanced Theory, attitudes are not isolated in consumer's minds but are linked to other attitudes. One of the most enduring theories for thinking about how attitudes are related is the Balance Theory. In its original form, the Balanced Theory describes elements in the environment as appearing in groups of three. Each triad contains: 1) a consumer, 2) an attitude object (such as a brand), and 3) some other person/s. In the Balance Theory, both the consumer and some other person evaluate the object as either positive or negative, and the consumer also evaluates the other person's attitude (Arnould et al).

The Balanced Theory is helping the study to find out if Social Norm (SN) in the Theory of Reasoned Action can indeed be affected by what friends/family in purchasing mobile phones.

Siemens' market share has remained rather stable over the last four years reaching close to 10% in 2004, and leaving it in the fourth place, world wide, after Nokia, Motorola and Samsung.

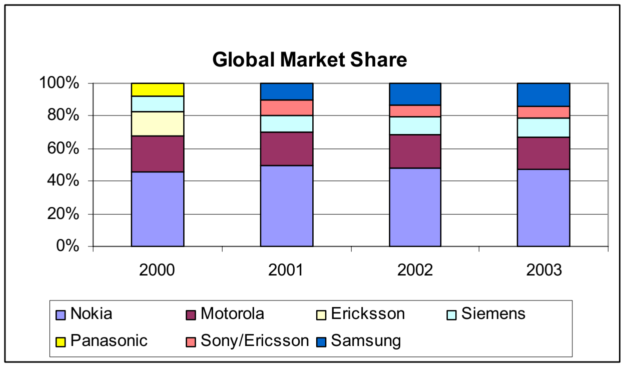


**Figure 2. Global Mobile Market Share – (Siemens ME Report 2005)**

In the UAE mobile market, Siemens shares the second place with Samsung, whilst Nokia, Sony/Ericsson and Motorola occupy the first, third and fourth place respectively

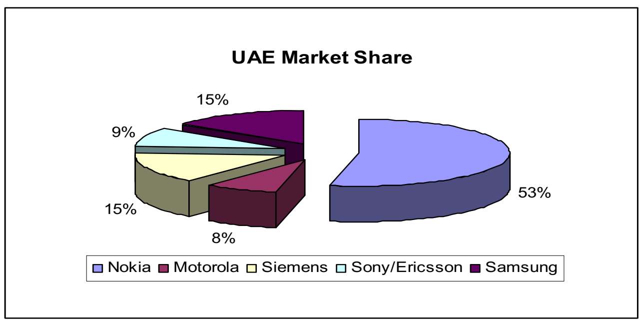


**Figure 3. UAE Market Share – (Siemens ME Report 2005)**

Siemens is confronted with a number of issues that need be addressed if it is to achieve sustained growth and profitability. Lack of differentiation has been a recurring issue, which requires further analysis.

Siemens came up with a new positioning strategy where it is targeting the group where targeted customers are above the age of 20 (Siemens Mobile Middle East Report, 2005). The study is focusing on this specific group where Siemens "Designed For Life" product is being offered to. As such, whether Siemens is offering product differentiation in order to achieve competitive advantage in UAE market is made known through a thorough this study. Overall cost leadership will not be a factor in determining the sales of Siemens, as it lies with Siemens research & development (R&D), and it does not fully coincide with the main objectivity of the study. Nevertheless, this is used as a part of the recommendations in the later part of the study.

The study is also concentrating on product differentiation and focus strategy. Brand awareness is taken into consideration in order to see how New Product Specifications Awareness (NPSA) can play a critical role in increasing sales for Siemens Mobile. The study also touches on pricing. Pricing is a definite factor in buying mobile phones. It may not be a factor, how ever, if the brand is trying to reach consumers and that it has already a good market reputation along with its specifications (MacDonald & Sharp, 2003).

As such, when Siemens repositions itself in the market with its new brand identity, it has to establish its brand with a new strategy to attract consumers and to lure them into buying its mobile phones. In this way, price as a factor, can be a part of the promotion, which is established through effective advertising. Prior to advertising, media habits should be analyzed in order to be familiar with the habits of consumers and this approach can help save money for the company in relation to advertisement costs (Baker, Hutchinson, Wesley, Moore & Nedungadi, 1986). The study is also discussing on the MAA and The Theory of Reasoned Action Model, which are used for the purpose of knowing attitude and behavioral intention of the consumers toward mobile phones. The Balanced Theory may play a role in determining whether loved ones/friends play any role in purchasing a product such as mobile in this study. The Theory of Reasoned Action and the Balanced Theory may not produce the same expected results as explained in the literature review. In any case, the study is not interested in the proof of these theories, but its main interest is to observe how the MAA, the Theory of Reasoned Action, and the Balanced Theory can be applied in determining factors such as purchasing habit of the consumers toward mobile phones in UAE.

The ideas garnered from the literature review above help the study carried out to develop the following theoretical framework in order to comprehend how Siemens sales can be affected with its new positioning strategy, amidst competition.

## 3. THEORETICAL FRAMEWORK

In the case of Siemens the following Independent Variables (IV), Intervening Variable (IVV), Moderate Variable (MV) and Dependent Variable (DV) have been identified as the possible variables found to be relevant for the purpose of further research towards hypothesis.

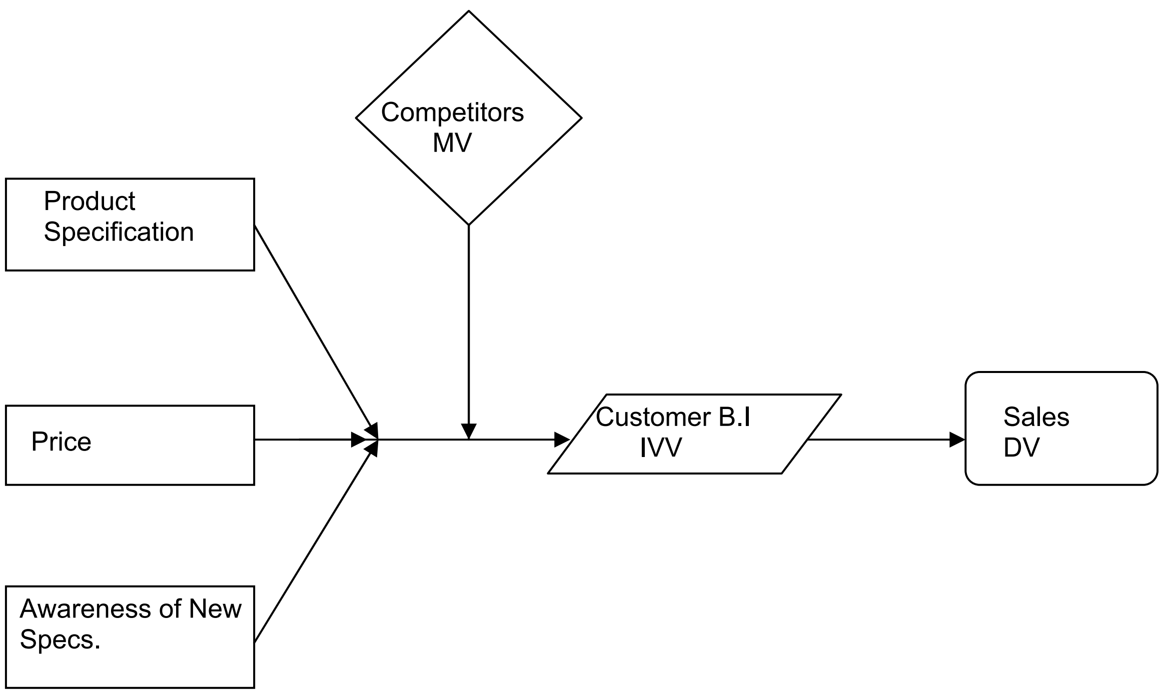


**Figure 4: Schematic Diagram of Theoretical Framework**

In the above diagram; the Independent Variables (IV) have been defined as Product Specifications, Price and New Product Specifications Awareness. This is in order to see how Independent Variables such as these can positively or negatively affect the Dependent Variable (DV) which in this case is Sales. By definition, an Independent Variable (IV) is the one that influences the dependent variable in either a positive or negative way.

Product Specification in the figure- is the general product specifications of Siemens, Nokia, Sony-Ericsson of the all respondents from the questionnaires designed. Price will also be the result of average of the responses received from the actually mobile phone users. As Siemens came to the market with New Product Specifications, therefore, New Product Specification Awareness will also play a pivotal role to see if that has anything to do with the sales.

The Moderating Variable (MV) is one that has a strong contingent effect independent variable-dependent variable relationship (Sekaran, 1998) In the case of above mentioned theoretical framework, competitors such as Nokia, Sony-Ericsson will appear as moderate variable to lessen the sales of Siemens Mobile.

An Intervening Variable (IV) is one that surfaces between the time the independent variables start operating to influence the dependent variable and the time their impact is felt on it. Behavioral Intention (BI) after considering the competitive ranking will be affected or not for the Sales to increase or decrease has been defined as an Intervening Variable (IV).

On the whole, the Theoretical Frame work has been established to see how the Independent Variables (IV) such as Product Specifications, Price, and New Product Specification Awareness (NPSA) can actually increase the sales of Siemens Mobile while facing competition from Nokia and Sony-Ericsson which appears as Moderate Variable (MV). Behavioral Intention (BI); in other words, the purchasing behavior of the consumers will be determined through considering all the aspects as Consumer will have to act to purchase either one of the above mentioned mobile phones. The BI will appear as Intervening Variable (IVV), which changes with time to finally affect the sales.

## 4. HYPOTHESIS

The study conjectured the following hypotheses to test relationships and effects of variables within the aforesaid theoretical framework.

- **Hypothesis 1 (H1):** ***Product  Specification is critical to sales for any mobile***

The hypothesis is testing purchasing behavior of mobile phone such as Nokia, Sony-Ericsson and Siemens in terms of responses received from the actual mobile users in relation to Product Specifications.

- **Hypothesis 2 (H2):** ***Better Price  is critical factor in  sales increase***

The hypothesis is testing whether the consumers give preference to price when they choose a mobile brand. Price deal from general preferences will be compared to that I of Siemens to see any significant changes.

- **Hypothesis 3 (H3):** ***Buying behavior of the consumers will be affected through New Product Specification Awareness.***

Siemens brand has 10% of market share in mobile phone market globally with 4th position. As Siemens came up with a new positioning strategy in 2004, it has to convey the message of his new specification to see if that is able to get to the consumers. New Product Specification Awareness will be critical in determining whether that increases the sales or not.

- **Hypothesis 4 (H4):** ***The more the people are aware of Designed for Life, the more the sales increases***

The hypothesis focuses on the number users from the sample who are actually aware of Siemens Design for Life, and how they perceive Siemens, and whether these actually helped increase the sales. The hypothesis will justify whether people are aware of new Siemens are more likely to purchase it as it offers the characteristics based on what consumers like to see in a mobile.

- **Hypothesis 5 (H5):** ***The Behavioral Intention (BI) of the consumers depends much on Brand Awareness ( New Product Specification Awareness)***

The hypothesis focuses on how Behavioral Intention (BI) of the consumers is actualized after they consider all characteristics of the product brand (Design, Features, Styles, Brand etc). This will help to indicate whether BI of Siemens changes in relation to purchasing behavior of the consumers who are either aware or those who are not aware of Siemens New Designed for Life.

- **Hypothesis 6 (H6):** ***Friends and Family can play a pivotal role in your decision making process to buy mobile phone.***

The hypothesis is testing whether friends and family can indeed affect the behavior of the consumers when making purchasing decision.

## 5. METHODOLOGY

A descriptive research approach is used in this study. Primary data in the form of attitudes, preferences, intentions and purchase behavior are collected using a Questionnaire via survey. The survey is administered through personal interviews.

### 5.1 Survey Sample

A set of 219 people is selected across the UAE. All those interview are 18 and above in terms of age bracket. The sample encompassed people from different national origins residing in the UAE.

### 5.2 Questionnaire Design

The questionnaire contains a set of 30 questions. The questions are carefully formed and administered to provide standardization and uniformity in the data gathering process.

The questionnaire is used to capture direct responses from the actual consumers on their beliefs and purchasing behavior towards mobile phones in the UAE. Some of the questions are specifically designed to concentrate on Siemens to establish how Siemens sales in UAE market for mobile phones mobile can be affected by the variables as discussed the aforesaid theoretical framework.

The objectives behind the questions are described in the Appendix.

### 5.3 Scaling

All questions (with the exception of Question 5) are measured based on the Likert Scales between 1 to 5, for the purpose of the study. Values above 3 are considered as significant in supporting the hypotheses. Question 5 is Dichotomous in nature where the scaling is either 1 or 2.

## 6. DEFINING VARIABLES

### 6.1 Variables (PS)

Product Specification (PS): measures the weight of better product specification in mobile purchasing decision. Question number 10 in the questionnaire is measuring this variable for any general mobile brand. The calculation is based on finding the average of all product specification attributes and is compared to the significance level or cut-off point which is 3.0. If (PS) is greater than 3.0, then this variable is significant to sales increase. PS is depicted as an independent variable in the aforesaid theoretical framework. It is a result of what consumers expect from the characteristics of their likings. PS shows if the sales increase within the scale of 1 to 5.

### 6.2 Variable (P)

Price (P) measures the weight by which better price deals affects sales increase. Question 10.4 and Question 14.3 in the questionnaire provide a measurement for this variable. When P is greater than 3 then this variable will be significant to sales increase. Question 10.4 gives the preference of the pricing based on all the average. Question 14.3 will be split into two, one is based on the people who are aware of the Siemens Designed for Life and the other one based on the people who are not aware of the Siemens Designed for Life.

**6.3 Variable (NPSA)**

New Product Specification Awareness (NPSA) measures the joint weight of all theses variable together in perspective of sales increase. Question 14 measures this variable for two sample categories: the first one is those who are already aware of SIEMENS new “Designed for Life” and those who are not aware of it. Likewise, if NPSA is greater than 3.0; then it is considered significant to increase sales volume.

**6.4 Variable (C)**

Presence of Competitors moderately affects the relation between (NPSA) and sales, therefore (C) measures the weight of purchasing for the joint independent variables in presence of competitors. If (C) is greater than 3.0, then it indicates that people are more willing to purchase new SIEMENS mobile; even when the competitors are there.

**6.5 Variable (BI)**

The variable is essential in calculating Consumer’s Behavioral Intention.

As mentioned in literature review:

$BI = A_{act}(w_1) + SN\ (w_2)$

BI = Consumer’s intention to engage in that behavior

$A_{act}$ = Consumer’s attitude towards engaging in that behavior

SN = Subjective norm regarding whether other people want the consumer to engage in that Behavior or Social Norm

$w_1$ and $w_2$ = Weights that reflect the relative influence of the $A_{act}$ and SN components on BI

This BI will finally be able to predict whether the sales for Siemens mobile will increase or not after Designed for Life came into effect.

**6.6 Variable ($A_{act}$ & SN)**

The variables are used in determining the BI of Consumer towards specific product. $A_{act.}$ They are the variables which consumers will engage to act after considering all the facts and information regarding competitors and Social Norm (SN) is where friends/family makes any contribution or influence in determining purchasing behavior. Question 22 is determining $A_{act}$ and SN is determined by Question16.1 through to Question 18.2.

**6.7 Variable ($A_0$)**

The Variable is essential in calculating Consumer Attitude towards specific product. In this case it will be towards Nokia, Siemens, and Sony-Ericsson. Nokia for instance, will have $A_0$ score based on the overall responses, on the people who are aware of Designed for Life for Siemens, and on the people who are not aware of Designed for Life. Siemens will have the same criteria as that of Nokia and so will Sony-Ericsson. The output $A_0$ have different variable due to different situations and gives a better view on what might increase Siemens sales in UAE.

**6.8 Variables ($b_i$ & $e_i$)**

The two variables are used to determine the strength of beliefs of consumers towards a specific product and the evaluation of that strength of belief. The two variables combined together and formed as $A_0$. Strength of belief ($b_i$) and evaluations of the strength of belief ($e_i$) is needed to form the $A_0$.

## 7. ANALYSIS AND INTERPRETATION OF DATA

Data received from the respondents was added and analyzed based on answers from 219 consumers. Triangulation of the collected data was implemented, under which, Legibility, Comprehensiveness, Consistency and Uniformity were examined. This was executed by the use of Microsoft Excel software program determining three different situations: 1) Overall results, 2) people aware of the “Designed-for-Life” slogan principles 3) the people who are not aware of the “Designed-for-Life” slogan principles. Below there is an interpretation of the main findings:

1. Out of 219 mobile phone users, a total number of 149 people use Nokia, 30 people use Siemens, 24 people use Sony-Ericsson, 8 people use i-mate, 1 uses Motorola and 8 people use Samsung; a total number of 8 people willing to pay less than 500 dirham ($136), 23 people between 500-800 ($136-217dirham), 57 people between 800-1000 dirham ($217-272), and 81 people between 1500-2000 dirham ($408-544) to pay for a mobile phone.
2. Average of Question 8.1( Design & Style) 4.05; Average of Question 8.2 (Brand Popularity) = 4.0 Average of Question 8.3 (User Friendliness)=4.14 ; Average of Question 8.4 ( Price Deal) =3.72 Average of Question 8.5 ( Features)=3.84; Average of Question 8.6 (Functionality)= 3.94; Average of Question 8.7 (Attractive advertising)= 3.64; Average of Question 8.8 (Quality/Durability) = 4.01
3. A total number of 48 people are aware of Siemens new Slogan Designed-for-Life, and 164 people are not aware of Designed for Life.
4. Average of Question 10.1 (Design & Style) = 4.04; Average of Question 10.2 (Popular brand) = 3.82 Average of Question 10.3 (User friendly) = 4.15; Average of Question 10.4 (Better price deal) = 4.05 Average of Question 10.5 (Better features)= 3.98; Average of Question 10.6 (Better technology) = 4.14; Average of Question 10.7 (Attractive advertising)= 3.28; Average of Question 10.8 (Country of origin) = 3.17; Average of Question 10.9 (Sales recommendation)= 3.11; Average of Question 10.10 (Friends/relatives recommendation)= 3.43; Question 10.11 (Positive experience in the past)= 3.80; Question 10.12 (Quality)= 4.31; Question 10.13 (Warranty) = 3.98; Question 10.14 (Promotions)= 3.56.
5. Average of Question 14.1 (Elegance & Style) = 3.75; Average of Question 14.2 (User Friendly) = 3.87; Average of Question 14.3 (Better price deal) = 3.96; Average of Question 14.4 (Better feature) = 3.85; Average of Question 14.5 (Functionality)= 3.90; Average of Question 14.6 (Battery Life) = 3.88; Average of Question 14.7 (Attractive advertising) = 3.14; Average of Question 14.8 (German engineering)= 3.35; Average of Question 14.9 (Durability)=4.03; Average of Question 14.10 (Warranty)= 3.84; Average of Question 14.11(Incentives)= 3.61.
6. Average of Question 16.1= 2.58; Question 16.2= 2.55; Question 17.1 = 2.88; Question 17.2= 2.85; Question 18.1= 2.95; Question 18.2= 3.16.
7. Average of Question 19.1.1 (Popular Brand) for Nokia = 4.57 Average of Question 19.1.2 (Popular Brand) for Siemens= 3.18; Average of Question 19.1.3 (Popular Brand) for Sony-Ericsson= 3.53; Average of Question 19.1.4 (Prestigious) for Nokia= 3.95; Average of Question 19.1.5 (Prestigious) for Siemens= 3.22; Average of Question 19.1.6 (Prestigious) for Sony-Ericsson= 3.34; Average of Question 19.1.7 (Stylish) for Nokia= 4.09; Average of Question 19.1.8 (Stylish) for Siemens= 3.26 ; Average of Question 19.1.9 (Stylish) for Sony-Ericsson= 3.54; Average of Question 19.1.10 (Good Price) for Nokia= 3.90; Average of Question 19.1.11 (Good Price) for Siemens = 3.2; Average of Question 19.1.12 (Good Price) for Sony-Ericsson = 3.48; Average of Question 19.1.13 (Trust) for Nokia = 4.09 ;Average of Question 19.1.14 (Trust) for Siemens = 3.03; Average of Question 19.1.15 (Trust) Sony-Ericsson= 3.37; Average of Question 19.1.16 (High Quality) for Nokia = 4.16 ; Average of Question 19.1.17 (High Quality) for Siemens= 3.12; Average of Question 19.1.1.8 (High Quality) for Sony-Ericsson = 3.41 ; Average 19.1.19 (Easy to Use) for Nokia = 4.35 ; Average of Question 19.1.20 (Easy to Use) for Siemens = 2.9; Average of Question 19.1.21(Easy to Use) for Sony-Ericsson = 3.37
8. The sample group of 219 mobile telephone users included 151 men and 68 women. [Question 24]

The analysis and interpretation of the designed questionnaire was conducted based on the importance of the questions used. In result, a number of questions have been left out of the interpretation and analysis.

## 8. VARIABLE MEASUREMENTS & FINDINGS

### 8.1 Measuring Variable (PS)

From Question no. 10 and with the assistance of a table of findings, the Attribute Total Average of the Measuring Variable (PS) can be estimated as: 3.92. The average of 3.92 was based on the results received from mobile users through questionnaires. Attributes ranging from Question 10.1 through Question 10.13 make a significant impact on the purchasing behavior of the studied mobile users.

**8.2 Measuring Variable (P)**
Subsequent to Question No. 10, the Measuring Variable (P) can be identified as 4.05, 4.09, and 3.96 respectively for Better Price Deal "General", Better Price Deal (Aware of the "Designed-for-Life" slogan principle), and Better Price Deal (Not Aware of the "Designed-for-Life" slogan principle).
Following an analysis of the Measuring Variable (P), provided three different answers under three diverse situations. This was implemented to determine if Price can be significantly changed under three different categories. The results provided revealed that the three different situations did not meet significant variables.

**8.3 Measuring Variable (NPSA)**
Analyzing Question No. 14, the Measuring Variable (NPSA) can be estimated for two categories:
1. Those who are aware of Siemens "Designed-for-Life" slogan principles- Filter Question No. 9 to only "YES" answer in Questionnaires
2. Those who are not aware of Siemens "Designed-for-Life" slogan principles- Filter Question No. 9 to only "NO" answer in Questionnaires

a. An average of 4.06 results suggests that the people who are aware of "Designed-for-Life" slogan will be more likely to buy Siemens mobile as the value of 4.06 is very significant.
b. An average of 3.74 under the situation in which case the people who are not aware of "Designed-for-Life" slogan suggests that people will still buy Siemens as 3.74 is still above the value of 3 but the sales increase will not as much as that of the results received from 4.06.

**8.4 Measuring Variables ( Ao, Bi & Ei)**
Both, MAA model and the model of reasoned action have been used to determine the variables of $A_{act}$, $b_i$ and $e_i$ for Nokia, Siemens and Sony Ericsson. Seven attributes have been considered, such as Popular Brand, Prestigious, Stylish, Good Price, Trust, High Quality, and Easy to use. These attributes are portrayed with numbers ranging from 1 to 7 for all the brands of Nokia, Siemens and Sony- Ericsson, portraying the number of Salient belief $e_i$ is 7.
Results for Nokia brand, under Strength of Belief and Evaluation for Overall, Aware and Not aware provided three different results:126.12, 121.2, and 120. Such results, reflected that consumer attitude towards Nokia did not have much of a variation under any situation.

Similar approaches were undertaken for the brand of Siemens (80.72, 102.129, 81.89), and Sony-Ericsson 90.47, 92.55, 89.92).

**8.5 Measuring Variables (Aact & SN)**
Application of Reasoned action: The following tables will be the applications of Theory of Reasoned Action (Fishbein II).

| | **Overall** | **Aware of Designed for Life** | **Not aware of Designed for Life** |
|---|---|---|---|
| $A_{act}$ ( Nokia) | 4.1 | 4.13 | 4.07 |
| **$A_{act}$ ( Siemens)** | **2.74** | **3.27** | **2.59** |
| $A_{act}$ ( Sony-Ericsson) | 3.22 | 3.56 | 3.12 |
| | | | |

**Figure 5: Measuring Variable ($A_{act}$)**

The results of the above table indicate that when consumers are aware of Siemens "Designed-for- Life" slogan, they are more likely to buy a Siemens handset. This is supported with the increase value of 3.27 (Figure 5), a significant increase than those other situation where action to engage into purchasing behavior came 2.74 and 2.59 respectively.

The results of the above table reflect findings regarding the second part of the Theory of Reasoned Action where Social Norm is adding value. This table indicates that Social Norm (SN) is subject to two different situations in which friends and family represent a significant influential factor. Through the use of SN, Fishbein model II we are able to justify if this indeed adds any value engaging into such a consumer behavior ($A_{act}$).

| | **Friends (in favor)** | **Family (in favor)** | **Friends (Recommendation)** | **Family (Recommendation)** |
|---|---|---|---|---|
| **Subjective Norm (SN) [Siemens]** | | | | |
| **Overall** | 3.00 | 2.98 | 3.00 | 3.15 |
| **Aware** | **3.35** | **3.35** | **3.25** | **3.17** |
| **Not Aware** | 2.88 | 2.85 | 2.95 | 3.16 |

**Figure 6: Measuring Variable (SN)**

A number of questions in the designed questionnaire have been designed explicitly to understand the attitude and behavioral intention of the consumers towards mobile phone brands such as Nokia, Siemens and Sony-Ericsson. Martin Fishbein's Multi Attribute Attitude (MAA) Model, along with the Theory of Reasoned Action have been the factors in these questions to determine the Attitude and Purchasing Behavior of the consumers towards mobile phones.

In particular, further findings include:

- Product Specification Average of 3.91 on question 10 suggests that characteristics such as Design and Style, Popular Brand, User Friendly, Better Features, Better Technology, Attractive Advertising, Good Quality, and Warranty can play a very important role in purchasing behavior of the consumers as they are represented by 3.91, an indicator of significant value.
- The indicator of Better Price Deal of 4.05 from Question 10.4 suggests that it has a significant impact on the consumers towards their purchase behavior. On the other hand, Better Price Deal of 4.09 from Question 14 suggests that the people who are aware of Siemens new “Designed-for-Life” slogan suggests that people are not cautious over price. It might also be interpreted that people who are not aware of Siemens “Designed-For-Life” slogan do not consider better prices as it is unlikely that they will purchase Siemens Mobile.
- Results from Question 14 .1 to Question 14.9 reflect two groups. The one that involves people who are aware of “Designed-for-Life” slogan and the other referring to people who are not aware of this. The average of 4.06 of the first group, suggests that the consumer group aware of Siemens “Designed-for-Life” slogan, is more likely to purchase the Siemens brand, as the value of 4.06 is above the assumed significant level of 3. On the other hand, the average value of 3.74 suggests that the consumer group not aware of the ”Designed-for-Life” slogan is less likely to purchase Siemens despite the value of 3.74 still being quite significant.
- Multi Attribute Attitude Model is divided in three parts such as $A_0$, $e_i$ and $b_i$. For Nokia, Siemens and Sony-Ericsson brands, the variables have been obtained through three different ways. Firstly, the variables were calculated in Microsoft Excel to obtain the average results of the people who are aware of “Designed-for-Life” slogan and those who are not. Secondly, variables are calculated based on the answers of the people who are aware of the “Designed-for-Life” slogan. Finally, the variables were calculated through a Microsoft Excel spread sheet by calculating responses received from the people who are not aware of “Designed-for-Life” slogan.
- The Average Overall result for Nokia is 126.12; an Average Overall result for Siemens is 80.72; Average Overall results for Sony-Ericsson is 90.47. Average results for Nokia based on the people who are aware of Designed for life: 121.2; Siemens: 102.129; Sony-Ericsson: 92.55. Average results for Nokia based on the people who are not aware of “Designed for Life”: 120.48; Siemens: 81.89; Sony-Ericsson: 89.92.

These results show the mobile phone user attitude towards Siemens, being aware of what new Siemens Mobile is offering.

## 9. TESTING HYPOTHESIS

- **Hypothesis 1 (H1):** ***<u>Product Specification is critical to sales for any mobile</u>***

Results from Question 10 (3.91) suggest that consumer purchasing behavior will be affected on different specifications they expect to see in any mobile phone. However, results received through the survey conducted suggest that Design and Style, Brand Popularity, User Friendly, Better Features, Better Technology, Attractive Advertising, Country of Origin, Durability, and Warranty are the driving factors in decision making process. The variables of these characteristics came above 3.00 which, being quite significant and capable of increasing the sales of mobile phones. Therefore, H1 is accepted.

- **Hypothesis 2 (H2):** ***<u>Better Price is critical factor in sales increase</u>***

Results obtained from Question 10.4, 14.3 (under two different situations) suggest that consumers take price into consideration while making up their purchasing decision when considering a mobile phone. However, the users aware of Siemens New "Designed-for-Life" slogan show a significant increase in their purchasing habits (4.09) than those who are not aware of it (3.96). Since both of these variables are greater than 3 and prove to be significant enough to increase the sales, H2 is accepted.

- **Hypothesis 3 (H3):** ***<u>Buying behavior of the consumers will be affected through New Product Specification Awareness</u>***

Results obtained with variables 4.06 and 3.74 under two different conditions (Aware and not aware of "Designed-for-Life" slogan consumer groups) suggest that consumers who belong in the latter will not show as much interest as the former group. Although, both 4.06 and 3.74 show significant margin, 4.06 is greater than 3.74 by a margin of 0.32. Therefore, New Product Specification Awareness (NPSA) indeed plays a very significant role onto buyer's behavior. Hence, H3 is accepted.

- **Hypothesis 4 (H4):** ***<u>The more the people are aware of Designed for Life, the more the sales increases</u>***

The average of Question 22.2 (filtered for those who know "Designed-for-Life" slogan in Question 9) = 3.27 which is greater than 3.0. This value indicates that even when competition may become an obstacle; consumers will prefer to purchase a Siemens handset.
On the other hand, the average of Question 22.2 (filtered for those who do not know "Designed-for-Life" slogan in Question 9) = 2.59 < 3.27 (before the effect of competitors). This is also smaller than 3.0, therefore, negatively affecting the sales.
Finally, it can be hypothesized that the presence of competitors might affect IV- DV relationships, depending on the situations they are under. Therefore, H4 is accepted.

- **Hypothesis 5 (H5):** ***<u>The Behavioral Intention (BI) of the consumers depends much on Brand Awareness ( New Product Specification Awareness)</u>***

Results obtained from Table 14 and Table 15 suggest that consumers make the final decision of purchase after considering all the facts, analyzing other existing brands in the market.

The aforementioned values represent the facts that BI varies depend on what conditions apply. $BI_2$: 3.27 + 3.28 suggests the consumer action to engage into buying Siemens mobile phones. The value 3.27 is greater than 3.0, meaning it is a significant value. Thus it will increase the sales. The value of SN (3.28) in this case also greater than 3 in which case it is adding .28 to 3.27 as an added value in purchasing behavior of behavioral intention of the consumers.

According to $BI_1$, the value of $A_{act}$ is 2.74 which is lower than 3.00, making it sales decreasing. How ever, the value of SN under this condition is 3.03 in which case it is adding up .03. Thus, BI is still insignificant. On the other hand, based on the answers received on $BI_3$, the value of $A_{act}$ is 2.59 and SN is 2.96, making both of them lower than 3, meaning the sales will decrease.

Therefore, H5 is accepted.

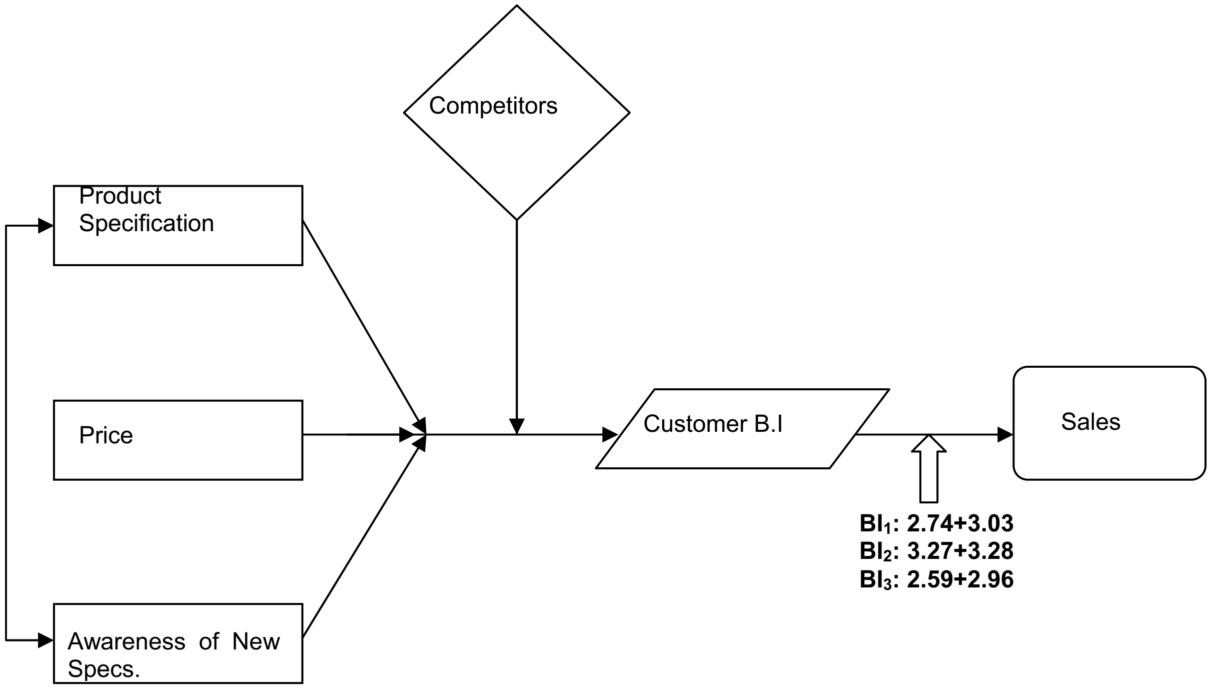


**Figure 7: Testing Hypothesis under three BIs**

**$BI_1$: 2.74 + 3.03**
**$BI_2$: 3.27 + 3.28**
**$BI_3$: 2.59 + 2.96**

- **Hypothesis 6 (H6): *Friends and Family can play a pivotal role in decision making process to buy mobile phone.***

According to balance theory discussed in the literature review, friends and family may represent a factor into a consumer's decision making process. Study findings revealed that this may not always be the case. In $BI_1$ where SN is 3.03 and $A_{act}$ is 2.74, clearly indicate that SN has not been strong enough to convince the consumer into buying a Siemens mobile despite 3.03 is greater than 3.0, hence a significant value. On the other hand, in $BI_2$, SN has placed a significant role towards the formulation of the value to $A_{act}$. Hence it has played a fundamental role towards consumer purchasing behavior.
Due to different variation of results received under different situation for Subjective Norm (SN), this hypothesis is rejected.

## 10. CONCLUSION

Albeit, Siemens came up with a new positioning strategy and with an objective to establish itself better in the mobile phone market and to out past its rivals Nokia, Sony-Ericsson etc, it did not gain the success of what it has expected. Different modeling techniques such as Fishbein I and Fishbein II have been distinctively used to identify where exactly the gap is between Siemens and its competitors, and how the gap can be narrowed. After analyzing the data generated from questionnaire survey, it has became clear that people tend to purchase Siemens if it is to offer the characteristics of what the consumers would like to see before they decide on purchasing any mobile phone. Therefore, New Product Specification Awareness (NPSA) is a critical factor in establishing Siemens brand in the mobile market. Nevertheless, consumers did not show significant increase in their purchasing decision when choosing between Siemens and other mobile phones such as Nokia and Sony-Ericsson.

The study also highlighted another important factor, that is, only 39 people out of total of 219 are aware of Siemens “Designed for Life” mobile phone. This indicates that Siemens has failed to reach to the consumers with a new strong brand identity campaign. Besides, Siemens has left out a large population comprising of younger generation in this campaign. By doing so, Siemens has failed to lure almost all category of the consumer, especially the younger generation, in promoting the purchase of their product brand -the new “ Designed for Life”.

## 11. POST STUDY EVENTS

Siemens, in order to be successful in mobile market in UAE, should embrace a more powerful market strategy to enable the brand to reach its customers with a new brand identity, a such helping it to establish itself as a more competitive and powerful brand in the mobile market.
As mobile market in the UAE continues to grow, competing companies are trying to establish their hegemony in the market by targeting different customer segmentation, in an attempt to build up competitive edges over their competitors. These competitors reach out to their customers with the aim of understanding what their customers like, how they like it, what they would like to see in mobile phones etc. Simply having new identity and product would result in complete failure if these fundamentals are not fully understood. And that is how Siemens mobile division has been -overshadowed by it continuous failure to establish itself in the market of mobile phones not only in the UAE but across other parts of the world. As a consequence, the Siemens management reluctantly sold its mobile division to Ben-Q, a Taiwanese company at has just been in the market for the last 4 years. The market viewed this move as a major event, for Siemens management was often overweening about their impregnable German technology –unconsciously the mental paradigm that imprisoned their success in the mobile market.
The post study events are actual reflection of the study findings as gathered earlier.

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## APPENDIX

Objectives Behind Questions:

- Q1 is to find out if the person at the interview is a mobile user or not.
- Q2 is to figure out what kind of mobile phone the user is currently using in order to see what kind of brand is mostly used by most of the users.
- Q3 is to find out what kind of model the user is currently using.
- Q4 is to find out if the mobile user is currently happy with the mobile he is using to see if he wants to try a new mobile.
- Q5 and Q6 are to find out how long the mobile is with the users and how often they change mobile phones.
- Q7 is to find out how much consumers actually spend to buy a mobile phone. This will give a trend to see if price is a factor in purchasing mobile.
- Q8 is to find out if the consumers are happy with certain characteristics of the mobile they are using. This question has been formed to see which of the characteristic is more important than those of others.
- Q9 has been formed to find out if the people are aware of Siemens Designed for Life. The answers received from this question will give the research to be undertaken insight view about whether Siemens has been able to convey the message of Design for Life to the consumers.
- Q10 has been formed to find out to what consumers expect to see in a product, in this case Mobile phone.
- Q11 has been formed to find out which brand has been advertised mostly and how.
- Q13 is to find out which brand consumers saw promotion in order to give a view about what brand most of the promotion has in UAE.
- Q14 has been formed to understand if consumers will buy Siemens mobile if it offers characteristics based on their choice.
- Q 16.1 through Q18.2—these questions have been developed to feed the output in the theory of reasoned action. The out put of these questions will be used to see the possible effectiveness of friends/family recommendation in the buying behavior of the mobile users.
- Q19.1 and Q 19.2 have been formed to understand the attitude of consumer towards mobile phones based on seven characteristics such as Brand Popularity, Prestigious, Stylish, Good Price, Trust, High Quality, Easy to Use. These characteristics will be used in order to have

comparisons amongst Nokia, Siemens, and Sony-Ericsson. This question will give the research under investigation the attitude or views consumers have on three of these mobiles. These two will also determine strength of belief (bi) and the evaluation of the strength of belief (ei).

- Q20.1, Q20.2, & Q20.3 have been formed to determine what the most favorite brands of the consumers are, what brand are just favorite and what brands they recommend others to buy.
- Q21 is to see if cost is a factor in buying mobile phones.
- Q 22 is one of the most important questions which will determine individual action of the consumer to purchase mobile phone. This answer is a part of Fishbein II model. How ever, this $A_{act}$ may not be affected at all by Social Norm ( SN). This question will give the research a more precise view about it.
- Q24 is to know how many people who filled out the questionnaires are male or female.
- Q25 is to know the age of the consumers.
- Q26 is to know the origin of the consumers.
- Q26 is to find out the occupation of the consumer, filling out the questionnaires.
- Q28 is to find out the monthly income level of the consumers.
- Q29 is to find out the media habit of the consumer so that Siemens management will know what time people mostly watch TV in order to advertise in an appropriate time.
- Q30 is to find out if the respondents wished to be contacted for future correspondence.

## ARE WE SHORT-CHANGING ACCOUNTING MAJORS?

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### ABSTRACT

This paper describes a study on the curricular design of introductory accounting courses and the preparedness and performance of accounting students in Intermediate Accounting courses in U.S. institutions of higher learning. The study shows that most universities offer either a two-course Financial Accounting and Managerial Accounting sequence, or a two-course, Principles I and II sequence. Instructors deliver the course material from a user, preparer, or a combination of the two perspectives. This study addresses the question of whether the design and delivery of an introductory accounting course sequence has an effect on accounting students' performance when they get to the intermediate accounting course level. In particular, in an effort to serve non-majors with various backgrounds and objectives for taking introductory accounting courses, are we short-changing the students who choose accounting as a major and will need a strong foundation in financial accounting in the future? The results of this study show no significant differences in perceived preparedness or performance of accounting students by instructors of Intermediate Accounting based on the curricular design or course delivery approach of introductory courses employed.

**Keywords:** Accounting Education, Accounting Majors, Introductory Accounting, Intermediate Accounting, User Approach, Preparer Approach.

### 1. INTRODUCTION

Over the past two decades, accounting education has been the subject of serious scrutiny by practitioners and academics. For several reasons, there has been an ongoing call for change in accounting education, with several different responses, and presumably, outcomes.

This paper describes the results of a study conducted in 2005 and 2006 of curricular design offered at the introductory accounting course level to majors and non-majors, and the perceptions of instructors of intermediate level courses of the preparedness and performance of their students. The study is not designed to show causality, rather the results are meant to be prescriptive, to show the current practices among U.S. institutions, and the perceptions of the instructors involved of the areas where students need more preparation at the introductory level. Instructors at the introductory and intermediate levels of accounting as well as program directors can benefit from the results of this study by aligning themselves with similar institutions that are achieving favorable results.

### 2. BACKGROUND – A CALL FOR CHANGE IN ACCOUNTING EDUCATION

In the early 1980s the American Accounting Association created a committee of members from academia, public accounting, private industry, and government to examine the structure, content, and scope of accounting education with the goal of reorienting education with the needs of professional practice. The general consensus was that accountants needed to expand and extend their knowledge and skills in order to keep up in a rapidly changing economic, technical and social environment. The committee's general conclusions (known as the Bedford Report) were threefold:

1. The accounting profession is expanding, and the expectations of and from those entering the profession are changing.
2. Most accounting education programs are inadequate to meet the needs of the expanding accounting profession.
3. The future scope, content, and structure of accounting education need to be reassessed and redirected appropriately to meet the needs of the profession (Bedford, et al., 1986).

Several trends in the economic and professional environment played important roles in this call for change in accounting education. First, the type of services and products accountants provide was expanding. Competition within and outside the profession was changing as a result, and the players were competing in a global arena. New accounting standards were being developed at exponential rates, making it difficult, if not impossible, for educational programs to keep pace. Widespread computerization at all levels of the profession meant that accountants must be knowledgeable and skilled in computer use before entering the profession.

The Bedford Report described the current state of accounting education as deficient in providing the scope, content and structure necessary to prepare accounting graduates for the profession. Several recommendations were put forth by the committee, with the goal of redirecting accounting education by revising and expanding curriculum, providing a more effective education delivery process, and strengthening the institutions from which accountants graduated.

Recommendations with respect to the scope and content of accounting education included the following competencies and skills necessary for faculty and students:

- competency in information technology and information system development;
- the development of broad personal capacities and skills rather than premature specialization in accounting;
- a strong liberal arts and sciences base to develop analysis, synthesis, problem-solving, and communication skills; and
- the ability to learn, to think, and to be creative.

It was recommended that the structure of accounting education remain broad and include education in the humanities, arts and sciences, as well as conceptual and technical knowledge in accounting. It was also suggested that specialized professional education in accounting be postponed until the graduate level.

At the time of its publication, the Bedford Report was viewed as a feasible set of goals for an educational system that needed to keep up with a changing profession. One of the most striking points made in the Bedford report, however, was that it is entirely possible to restructure and reorient accounting education at the university level without abandoning the commitment that accounting students will learn to <u>prepare</u> and <u>use</u> accounting reports (Bedford, et al., 1986). This is a point that seemed to get less attention as the call for change in accounting education continued.

As part of the implementation strategy of the call for change, the Accounting Education Change Committee (AECC) was formed in 1989 by the AAA to address in detail the content or what was being taught in accounting curricula, as well as how these curricula should be delivered or taught. Not surprisingly, the goal of the AECC was improvement of accounting education in order to align graduates with the types of skills and knowledge necessary to succeed in a rapidly changing profession. The AECC granted funds to several undergraduate and graduate institutions of accounting in order to facilitate curricular development and change, resulting in the publication of "Objectives of Education for Accountants" AECC Position Statement Number One, which served as a guideline for institutions in the process of changing accounting education programs.

Position Statement Number One states that more curricula in accounting are not necessarily the best solution to educating better accountants, and that graduates should be expected to do more than acquire knowledge – by memorizing accounting standards and rules – an impossible task in an arena where new rules and standards are being set continuously. This approach would lead to more narrowly focused students accessing a smaller and smaller percentage of the expanding knowledge base in accounting (Sundem & Williams, 1992). The AECC recommended pedagogy focusing on students' learning to learn, being able to gather information, analyze data, make reasoned decisions, and effectively communicate results.

The user approach or conceptual orientation to teaching accounting courses was introduced early in discussions of change, an approach that emphasizes the use of financial and nonfinancial information for economic decision-making, and places less emphasis on the record-keeping or preparation functions (preparer orientation) of accountants. AECC Position Statement Number One emphasized that accounting is an information system designed to facilitate and communicate decision-making, and that therefore decision-making must be an integral part of accounting course content (AECC, 1990). AECC Position Statement Number Two, "The First Course in Accounting" reaffirmed this assertion but also suggested that accounting education should focus on the relevance of accounting information to decision-making (user approach) as well as to its source (preparer approach) (AECC, 1992).

According to Sundem & Williams (1991), no single accounting curriculum design would provide the optimal set of skills and knowledge necessary in professional accounting. They suggest, rather, that the development of a set of basic capabilities necessary to succeed in accounting should be the focus of a program of study. These capabilities are defined as skills, knowledge, and professional orientation. First, in terms of skills, students should be recruited for the accounting major based upon communication skills, intellectual skills and interpersonal skills, and the curriculum should be designed to develop and reward improvement in these areas. Interactive learning in the form of case studies, simulations and role-playing is suggested as a strategy for achieving development in these areas, and would make accounting students active learners rather than passive subjects. In terms of knowledge, Sundem & Williams call for accounting graduates to acquire adequate levels of general knowledge, organizational and business knowledge, and, of course, accounting knowledge. Each of these components provide for a more-well rounded business professional with an ability to function in diverse cultural, economic and political settings. The focus in accounting knowledge, again should not be on memorization of rules, rather on the development of the capability to identify problems or opportunities, to identify, gather, measure, summarize, analyze and interpret financial and non-financial data, and to evaluate risk and make informed decisions necessary to solve problems or seize opportunities. This objective can be advanced by including a broad base of liberal arts and sciences in the general curriculum, and by providing a comprehensive business curriculum that includes specialized accounting courses. It was suggested that advanced topics in audit, taxation and information technology be postponed and included in a graduate curriculum. The final capability called for by Sundem and Williams was for professional orientation, that is, that accounting graduates appreciate their obligations as professionals. This calls for training in professional ethics, integrity, objectivity and professional judgment, all difficult to teach and easier learned through practical experience.

Hulme, et al., (1997) corroborate the opinions of The AECC and Sundem & Williams, but stress that it is just as critical to focus on the accounting content that is taught as it is to focus on how it is delivered to accounting students. They believe that the user approach to teaching accounting has its merits and that student-centered pedagogy is valuable. But they add that the content of accounting education must include knowledge and skills that will add value to accountant's services from a Total Quality Management perspective. Because introductory accounting texts written in both the traditional (preparer) approach to accounting and in the user approach to accounting tend to cover the same basic content areas in comparable configurations of chapters, professors aren't always able to determine which topics will truly add value to the services performed by accountants – now and in the future. The role of the instructor, in their opinion has changed to that of facilitator in teaching the student how to learn, and then providing in-depth coverage of only certain topical areas, rather than skimming over several topics. The focus of an accounting course should not be on how much the instructor should cover, but rather on how much the student should know (Hulme, et al., 1997).

In a related line of research, Mintz and Cherry (1993) set out to study the education experience of accounting as well as non-accounting majors in introductory accounting courses. They asked instructors of Intermediate Accounting to rank the importance of topics covered in introductory courses to accounting majors and non-majors. They found that instructors viewed most textbook topics as significantly more important for majors than non-majors, and viewed problem solving and technical (worksheet and computer applications) skills significantly more important to majors. Only one topic (financial statement analysis) was considered more important to non-majors, and communication skills were found to be similarly important to both majors and non-majors. Their study revealed that in general, instructors were not satisfied with the preparation majors received in introductory courses.

In a similar study by Mintz and Cherry (1996), the views of non-accounting faculty on the content and focus of introductory courses in accounting were gathered. Non-accounting (business area) faculty generally supported a user approach to teaching introductory accounting courses, favoring a focus on the use of accounting information over financial statement preparation and bookkeeping. The authors contend that if business schools seek to meet AACSB accreditation requirements, non-accounting faculty should have input into the objectives and design of shared introductory accounting courses.

At the same time as the public profession was calling for changes in the curriculum to better prepare students or graduates for the changing business environment, the IMA was gathering data in support of a change in the managerial accounting curriculum (Siegel and Sorenson, 1999). It appears that the two tracks of accounting (public and private) are growing farther apart. The managerial content of the CPA exam is at an all-time low, which indicates that coursework in managerial accounting is not as critical to those students pursuing licensure.

In 2000, the AAA published the results of a joint project of the AAA, the AICPA, the IMA, and the Big 5 Accounting Firms entitled, "Accounting Education: Charting the Course through a Perilous Future". The authors, Albrecht and Sack (2000) provide evidence that previously suggested changes in accounting education had not been comprehensively adopted by institutions of higher education, the volume and quality of accounting students in the pipeline was decreasing, and that the accounting profession was suffering, so it seems, as a result. They challenged educators to examine the content and design of accounting courses offered to majors and non-majors.

One of the notable comments in Albrecht and Sack's report is "Today anyone, armed with the right software, can be an "accountant" and produce financial information" (pg. 6). Another statement is "the makeup of students enrolling in accounting classes is different than it was previously. We are teaching proportionately fewer accounting majors and proportionately more nonmajors. This shift in the makeup of our students requires a shift in the way we teach accounting…" (pg. 21). With introductory accounting courses being required by an increasing number of business and non-business curricula, and budget constraints in universities, departments must serve as many students as possible with one product.

## 3. IMPLEMENTING CHANGE AT THE UNIVERSITY LEVEL

During 1990s and early 2000s, many colleges redesigned curriculum to reflect proposed changes in the content and focus of introductory courses. One example of such a change was a switch from a Principles of Accounting I and II, two-semester course sequence to a Financial Accounting and Managerial Accounting two-semester course sequence. This new sequence reflected the change in focus away from financial accounting topics and toward managerial topics that would better serve non-majors and majors not pursuing a public accounting career. Meanwhile, text authors were releasing texts in both Principles I and II and Financial and Managerial Accounting formats. Authors also began presenting their texts as approaching content areas from a user perspective rather than from a preparer or practitioner perspective. Typically, a text written in the user perspective included more material on analysis of information and decision making, while still including the basic rules of debit and credit and journalizing transactions. It seemed that the user perspective was a marketing tool as well as an attempt to align the curriculum with the perceived expectations of the profession.

While some larger degree-granting institutions may be able to offer separate sections of introductory accounting courses for accounting majors, many smaller institutions lack the resources to segregate accounting majors from other business majors at the introductory level. Therefore, the switch from the Principles I and II to the Financial and Managerial design, and from the preparer to the user perspective, if adopted in shared major courses, would seem to serve the non-majors at a slight expense to accounting majors. This direction of thinking caused us to ask this question: If introductory courses are designed and delivered with non-majors in mind, are we short-changing accounting majors? That is, will accounting majors receive adequate preparation in their chosen field of study? While the implementation of change in accounting education is ongoing, we are interested in the effects of changes in introductory accounting courses, if any, from the perspective of those who must deal with the ramifications of change at the onset – the instructors in Intermediate Accounting courses.

## 4. RESEARCH QUESTIONS

1. What types of introductory accounting courses are included in the curriculum of schools serving accounting majors?
    a. Is a user or a preparer perspective being taken?
    b. How are the courses weighted between financial and managerial topic coverage?
2. How is the design and delivery of introductory courses associated with perceived preparedness and performance of accounting majors at the Intermediate Accounting course level?
3. What content areas do Intermediate Accounting instructors believe need to be covered more fully in introductory accounting courses?
4. What other factors may contribute to the perceived performance or preparedness of accounting majors at the Intermediate Accounting course level?

## 5. STUDY INFORMATION

This study was designed to gathered information from accounting educators teaching Intermediate Accounting courses on the curricular design of introductory accounting courses, including their perceptions of the preparedness and performance of accounting students in Intermediate Accounting courses. Our sample was drawn by choosing the highest-ranking instructor with an interest in financial accounting at institutions listed in the latest Hasselback Accounting Faculty Directory, which would indicate a potential instructor of Intermediate Accounting courses. Potential subjects were sent an email that directed them to a web-based survey instrument. If the recipient was not an instructor of Intermediate Accounting, they were requested to forward the email message to the appropriate individual(s) at their institution. The initial message was sent to 824 individual email addresses in May 2005, in line with the end of the spring 2005 semester. A good number of the messages were returned as unread or undeliverable, which is common in this type of methodology. Undeliverable addresses and addresses of those reporting no involvement in Intermediate Accounting were removed from the database. A total of 60 useable responses were received as of June 28, 2005. A second mailing was initiated in December 2005, in line with the end of the fall 2005 semester. Again, undeliverable addresses were removed from the database. The final database was pared down to 668 email addresses. If previous respondents answered the survey again, older responses were replaced by the more recent. Seventy-six new responses were received in this second round of questionnaires. The overall response rate was 20.4 percent.

## 6. RESULTS

The survey administered yielded 136 useable responses representing the views of Intermediate Accounting instructors and programs in 41 states. Some of the characteristics of the respondents and of the respondents' institutions are presented in Table 1. The institutions represented by the sample offer varying combinations of bachelors, masters, and doctoral degrees. The majority of institutions offer bachelors degrees, (B.S., B.A., or Other). Thirty schools offer multiple undergraduate degrees in accounting. Several respondents indicated that graduate degrees are offered, with sixteen institutions offering multiple masters degrees. Only nine of the responding institutions have Ph.D. programs. The size of programs represented by the sample vary in size from 11 to 880 undergraduate majors (average 146.5), and from 2 to 130 graduate level majors (average 30.1).

A majority of the individual respondents to the survey are current instructors of Intermediate Accounting. Six respondents completed the survey without any assistance, 87 completed the survey with the assistance of an instructor of introductory level courses at their institution, and 10 are instructors of both intermediate and introductory courses. Twenty-seven of the respondents are instructors of introductory courses that had either taught Intermediate Accounting or are familiar with the curriculum, or are department chairs. Respondents' credentials are also shown in Table 1. Eighty-four hold doctoral degrees, 49 hold masters degrees, and one holds a bachelors degree. Certification is weighted toward public accounting – 109 are CPAs. Twenty-nine are CMAs and 18 hold other certification.

**TABLE 1. INSTITUTION AND RESPONDENT INFORMATION**

| **Degrees Offered** | **Number of Programs** | |
|---|---|---|
| B.A. in Accounting | 29 | |
| B.S. in Accounting | 79 | |
| B.S. in Business Admin. (Accounting Concentration) | 40 | |
| Combined B.S./M.S. in Accounting | 10 | |
| M.S. in Accounting | 38 | |
| M.B.A. with Accounting | 36 | |
| Ph.D. in Accounting | 9 | |
| | | |
| **Number of Accounting Majors** | **Range** | **Average** |
| Undergraduate | 11 - 880 | 146.5 |
| Graduate | 2 - 130 | 30.1 |
| | | |
| **Prepared by** | **Number of Respondents** | |
| Intermediate Accounting Instructor | 6 | |
| Intermediate Accounting Instructor with the Assistance of an Introductory Instructor | 87 | |
| Both Introductory and Intermediate Accounting Instructor | 10 | |
| Introductory Accounting Instructor with the Assistance of an Intermediate Instructor | 27 | |
| | | |
| **Highest Degree Earned by Respondent** | | |
| Doctorate | 84 | |
| Masters | 49 | |
| Bachelors | 1 | |
| | | |
| **Professional Certification of Respondents** | | |
| CPA | 109 | |
| CMA | 20 | |
| Other | 18 | |
| | | |
| **Teaching Experience** | **Range** | **Average** |
| Years teaching Accounting | 2 – 40 years | 21 years |
| Years teaching at current institution | 0 – 38 years | 13 years |
| | | |
| **Number of Sections taught over past 5 years** | | |
| Intermediate Accounting I | 0 – 25 | 5.9 |
| Intermediate Accounting II | 0 – 30 | 5.7 |
| Principles I or Financial Accounting | 0 – 40 | 7.1 |
| Principles II or Financial Accounting | 0 – 40 | 4.5 |

The teaching experience reported ranges from 2 to 40 years of teaching accounting with an average of 21 years. This level of experience indicates that a large number of these faculty members were teaching during the time period of the call for change in accounting education. On average respondents have been teaching at their current institution for 13 years (range 0 to 28 years), indicating that many of them would have some experience with curriculum development at the institution.

The average number (and range) of course sections taught by respondents over the past five years are also shown in Table 1. While some instructors teach both the first and second introductory and/or intermediate courses, some only teach one. Based on the characteristics and credentials of the survey respondents, and the size and types of programs that they serve, we believe that our survey has reached the intended target audience. We feel comfortable that the views they express with respect to accounting curriculum and the preparedness and performance of students are valid even though the sample size is small.

**TABLE 2. INTRODUCTORY ACCOUNTING COURSE INFORMATION**

| **Curricular Structure** | **Number of Programs** | **Percent of Total** |
|---|---|---|
| Financial Accounting and Managerial Accounting | 83 | 61.0% |
| Principles I and Principles of II | 48 | 35.3% |
| Other | 5 | 3.7% |
| | | |
| **Planning to Change Structure** | | |
| From Fin/Mgr to Principles I/II | 3 | 3.6% |
| From Principles I/II to Fin/Mgr | 11 | 22.9% |
| | | |
| **Pedagogical Approach** | | |
| User Approach | 44 | 32.4% |
| Preparer Approach | 33 | 24.3% |
| Combination of Approaches | 46 | 33.8% |
| None of the Above | 13 | 9.5% |
| | | |
| **Planning to Change Approach** | | |
| From User to Preparer | 9 | 20.5% |
| From Preparer to User | 4 | 12.1% |
| | | |
| **Average Course Coverage** | **Financial Topics** | **Managerial Topics** |
| Financial Accounting | 98.3% | 1.7% |
| Managerial Accounting | 12.7% | 87.3% |
| Overall Coverage | 55.5% | 44.5% |
| Principles of Accounting I | 93.6% | 6.4% |
| Principles of Accounting II | 43.4% | 56.6% |
| Overall Coverage | 68.5% | 31.5% |
| | | |
| **Number of Sections per Academic Year** | **Range** | **Average** |
| Financial Accounting or Principles I | 2 – 40 | 9.1 |
| Sections Restricted to Accounting Majors Only | 2 | |
| Managerial Accounting or Principles II | 1 – 40 | 8.4 |
| Sections Restricted to Accounting Majors Only | 6 | |
| | | |
| **Number of Credits per Course** | **Range** | **Average** |
| Financial Accounting or Principles I | 3 – 6 | 3.2 |
| Managerial Accounting or Principles II | 2 – 6 | 3.3 |
| | | |
| **Enrollment per Course** | **Range** | **Average** |
| Financial Accounting or Principles I | 15 – 180 | 75.0 |
| Managerial Accounting or Principles II | 12 – 120 | 62.8 |
| | | |
| **Average Percent of Accounting Majors in Courses** | | 17.5% |

Table 2 presents information gathered on the structure, pedagogical approach and size of introductory accounting courses of the sample institutions. We now address our first research question on the structure and content of introductory accounting. Of the 136 respondents, 83 programs (61.0%) offer Financial and Managerial Accounting and 48 offer Principles of Accounting I and II (35.3%). Five respondents reported "Other" configurations. Three institutions reported planning to change from

Financial/Managerial to Principles I and II, while eleven plan to change from Principles I and II to Financial/Managerial. Forty-four instructors reported that the user approach is employed in introductory courses at their institutions (35.8%), 33 reported that the preparer approach is utilized (26.8%), and 46 reported that a combination of the approaches is used (37.4%). Nine institutions reported planning to change from the user to the preparer approach, while four plan to change from the preparer to the user approach. Topic coverage under the two structures is slightly different for the first introductory course, and noticeably different for the second course in the two course sequences. Financial/Managerial sequences on average devote 98.3% of the course covering financial topics in the first course, and 87.3% of the second course to managerial topics. For Principles I and II sequences, the first course is on average 93.6% financial in content and the second course is 56.6% managerial in coverage. The Principles I and II course sequence provide an average of about 23% more financial coverage than the Financial/Managerial sequence.

The number of sections offered, the number of credits, and the enrollment in introductory courses is also shown in Table 2. Sections of the first introductory course range from 2 to 40 per year, with an average of 9.1. Sections of the second introductory course range from 1 to 40, with an average of 8.4 per year. The courses carry 2-6 credit hours, with a mode of 3 for both the first and second courses and a mean of 3.2 and 3.3 credits, respectively. Enrollment in the first course ranges from 15 to 180 students, with an average of 75 students. The second course's enrollment is slightly lower, ranging from 12 to 120 students, with an average class size of 62.8. Of the courses reported, only 2 of the first courses (Financial or Principles I) are restricted to only accounting majors, and 4 of the second courses (Managerial or Principles II) are restricted to accounting majors. On average, only 17.5 percent of all introductory accounting students are accounting majors. This information shows that introductory accounting courses, especially the first course, serve large populations of non-accounting majors.

Table 3 shows the characteristics of the Intermediate Accounting courses taught at respondents' institutions. The number of sections offered per academic year range from 1 to 13 for Intermediate I (average 2.8) and from 1 to 9 for Intermediate II (average 2.4). The marked decrease in the number of sections offered on average corresponds with the increase in the average percent of accounting majors in the courses – 87.8%. Course credits range from 3 to 6 with an average of 3.3 and 3.2 for Intermediate I and II, respectively. Average enrollment (31.8 for Intermediate I and 28.0 for Intermediate II) is lower for both courses, although the upper range is the same as for introductory courses. With different curricular structures (Financial/Managerial and Principles I and II), different pedagogical approaches (user approach and preparer approach), different levels of topic coverage, and larger class sizes, how well are accounting majors being prepared for smaller, financial-based, preparer-oriented Intermediate Accounting courses?

**TABLE 3. INTERMEDIATE ACCOUNTING COURSE INFORMATION**

| **Number of Sections per Academic Year** | **Range** | **Average** |
|---|---|---|
| Intermediate Accounting I | 1 – 13 | 2.8 |
| Intermediate Accounting II | 1 – 9 | 2.4 |
| | | |
| **Number of Credits per Course** | **Range** | **Average** |
| Intermediate Accounting I | 3 – 6 | 3.3 |
| Intermediate Accounting II | 3 – 6 | 3.2 |
| | | |
| **Enrollment per Course** | **Range** | **Average** |
| Intermediate Accounting I | 8 – 180 | 31.8 |
| Intermediate Accounting II | 7 – 120 | 28.0 |
| | | |
| **Average Percent of Accounting Majors in Courses** | | 87.8% |

When asked about the overall performance of their students in Intermediate Accounting courses, 36.6 percent of respondents indicate that performance over the past 5 years is about the same. Slight declines in performance are reported by 35.9 percent of respondents, and significant declines are reported by 10.7 percent. Slight improvements and significant improvements in performance are reported by 11.5 and 5.3 percent, respectively. Table 4 shows that when these performance measures are compared for the two curricular structures, 10 percent of instructors whose students came through the Financial/Managerial curriculum report a significant decline in performance, 36.3 percent report a slight decline, and 38.7 percent report about the same performance, while 10 percent and 5 percent report slight and significant improvements in performance, respectively. The performance of students coming through the Principles I and II introductory sequence is similar, and not significantly different than that of Financial/Managerial students. Performance differences are more marked among user, preparer, and combination approaches. In total, 25.5 percent of respondents whose students took introductory courses under the user approach report some improvement among Intermediate students, while only 12.1 percent of respondents whose students took introductory courses under the preparer approach report some improvement among Intermediate students. Of those whose students received a combination of the approaches, 11.1 percent report improvement. Declines in performance were reported by 41.9 percent of Intermediate instructors whose students had received the user approach, by 42.4 percent of instructors whose students had received a preparer approach, and by 57.8 percent of those whose students had received a combination of approaches. Differences in mean performance among the approaches were analyzed using t-tests. There are no significant differences in reported performance among approaches.

**TABLE 4. OVERALL PERFORMANCE OF STUDENTS IN INTERMEDIATE ACCOUNTING COURSES**

| Performance | Sample | Fin/Mgr | Princ I/II | User | Preparer | Combination |
|---|---|---|---|---|---|---|
| N size | 131 | 80 | 47 | 43 | 33 | 45 |
| Significant Decline | 10.7% | 10.0% | 12.8% | 16.3% | 3.0% | 13.3% |
| Slight Decline | 35.9% | 36.3% | 34.0% | 25.6% | 39.4% | 44.5% |
| About the same | 36.6% | 38.7% | 34.0% | 32.6% | 45.5% | 31.1% |
| Slight Improvement | 11.5% | 10.0% | 14.9% | 13.9% | 9.1% | 8.9% |
| Significant Improvement | 5.3% | 5.0% | 4.3% | 11.6% | 3.0% | 2.2% |

Table 5 shows the reported importance of introductory accounting courses to performance in Intermediate Accounting. Respondents from institutions that offer the Principles I and II sequence attach a higher level of importance on the role of the introductory courses to performance in Intermediate courses (28.3% critically important) than respondents from institutions offering the Financial/Managerial sequence (12.7% critically important). Those respondents in the user approach group attach slightly less importance on introductory courses than the combination approach group, and significantly less than the preparer approach group (t-value = 2.130; p = .036). So, even though there are only slight differences in performance (per Table 4), with the user approach group showing more improvement among students, respondents from the preparer group place more importance on the role of introductory courses in the performance of students in Intermediate Accounting. These perceptions of lower performance in Intermediate courses, and higher importance of introductory courses by the preparer group may be self-supporting.

**TABLE 5. IMPORTANCE OF INTRODUCTORY ACCOUNTING COURSES TO PERFORMANCE IN INTERMEDIATE ACCOUNTING**

| Importance | Sample | Fin/Mgr | Princ I/II | User | Preparer | Combination |
|---|---|---|---|---|---|---|
| N size | 129 | 79 | 46 | 42 | 32 | 45 |
| Not important | 4.7% | 6.3% | 2.2% | 7.1% | 3.1% | 2.2% |
| Minor Importance | 5.4% | 7.6% | 2.2% | 7.1% | 3.1% | 4.5% |
| Moderate Importance | 28.7% | 29.1% | 21.7% | 35.7% | 21.9% | 33.3% |
| Very Important | 43.4% | 44.3% | 45.6% | 33.4% | 56.3% | 37.8% |
| Critically important | 17.8% | 12.7% | 28.3% | 16.7% | 15.6% | 22.2% |

Tables 6 and 7 reveal the perceptions of instructors as to their students' need for less, more, or the same amount of preparation in financial and managerial accounting, respectively, at the introductory level. Per

Table 6, nearly half (48.1 percent) of the sample reported that students would be fine with the current level of preparation in financial accounting at the introductory level. Just over half (51.1 percent) of all respondents reported that students needed more preparation in financial accounting topics. These results show little variation among the design of courses or delivery method subcategories. A summary of the content areas needing more coverage are listed later in Table 9. Table 7 shows that, overall, only 11.4 percent of Intermediate Accounting instructors believe that students need more managerial accounting preparation at the introductory level, and 15.3 percent believe that students need less managerial accounting. This is logical because Intermediate I and II are both primarily financial in content, and because most institutions offer separate Cost or Managerial Accounting courses at the upper level for accounting majors. Accordingly, the largest number of "same" responses came from instructors whose students took Financial and Managerial Accounting as introductory courses. Those respondents in the Principles I and II and preparer approach groups feel only slightly stronger that there should be less managerial accounting at the introductory level (most likely, for the same reasons as above).

**TABLE 6. INTERMEDIATE ACCOUNTING STUDENTS' NEED FOR PREPARATION IN FINANCIAL ACCOUNTING AT THE INTRODUCTORY LEVEL**

| | Sample | Fin/Mgr | Princ I/II | User | Preparer | Combination |
|---|---|---|---|---|---|---|
| N size | 133 | 82 | 47 | 43 | 33 | 46 |
| Less | .8% | - | 2.1% | - | - | - |
| Same | 48.1% | 51.2% | 42.6% | 46.5% | 57.6% | 47.8% |
| More | 51.1% | 48.8% | 55.3% | 53.5% | 42.4% | 52.2% |

**TABLE 7. INTERMEDIATE ACCOUNTING STUDENTS' NEED FOR PREPARATION IN MANAGERIAL ACCOUNTING AT THE INTRODUCTORY LEVEL**

| | Sample | Fin/Mgr | Princ I/II | User | Preparer | Combination |
|---|---|---|---|---|---|---|
| N size | 131 | 80 | 47 | 43 | 33 | 44 |
| Less | 15.3% | 12.5% | 21.3% | 9.3% | 24.2% | 15.9% |
| Same | 73.3% | 82.5% | 57.4% | 76.7% | 66.7% | 72.7% |
| More | 11.4% | 5.0% | 21.3% | 14.0% | 9.1% | 11.4% |

Table 8 summarizes the overall breakdown of curricular design and pedagogical approaches employed by respondent institutions in the sample. The two most-reported configurations are Financial/Managerial with user approach (n=30, 22.1%) and Financial/Managerial with a combination of user and preparer approaches (n=27, 19.9%). After that, three configurations were similarly weighted: Principles I and II with a combination of approaches (n=18, 13.2%), Financial/Managerial with a preparer approach (n=17, 12.5%), and Principles I and II with a preparer approach (n=16, 11.8%).

**TABLE 8. SUMMARY OF DESIGN AND APPROACH**

| | Sample | | User | | Preparer | | Combination | | Other | |
|---|---|---|---|---|---|---|---|---|---|---|
| | n | % tot. | n | % tot. | n | % tot. | n | % tot. | n | % tot. |
| Fin/Mgr | 83 | 61.0% | 30 | 22.1% | 17 | 12.5% | 27 | 19.9% | 9 | 6.6% |
| Princ I/II | 48 | 35.3% | 10 | 7.4% | 16 | 11.8% | 18 | 13.2% | 4 | 2.9% |
| Other | 5 | 3.7% | 4 | 2.9% | 0 | - | 1 | 0.7% | 0 | - |
| Total | 136 | 100.0% | 44 | 32.4% | 33 | 24.3% | 46 | 33.8% | 13 | 9.5% |

Table 9 lists the financial accounting content areas where 25 percent or more respondents indicated that students need more preparation at the introductory level. The areas can easily be grouped into larger headings. The first three: Realization and Recognition of Revenue, Matching Expenses to Revenue, and Preparation of Adjusting Entries can all be considered end-of-period adjustments for accrual accounting. The next two: Discussion of Present Value Concepts and Solving Present and Future Value Problems can be considered the Time Value of Money. The next two: Discussion of the Format of the Statement of

Cash Flows and Classification of Investing, Financing, and Operating Activities pertain to cash flows, and the last item, Full Disclosure in Financial Reporting stands alone. Table 9 also shows that Intermediate Accounting instructors cover two of the weak areas in a remedial fashion.

**TABLE 9. CONTENT AREAS THAT NEED MORE COVERAGE**

Students in Intermediate Accounting Need More Preparation at the Introductory Level in the Following Content Areas:

- Realization and Recognition of Revenue
- Matching Expenses to Revenue
- Preparation of Adjusting Entries
- Discussion of Present Value Concepts
- Solving Present and Future Value Problems
- Discussion of the Format of the Statement of Cash Flows
- Classification of Investing, Financing, and Operating Activities
- Discussion of Full Disclosure in Financial Reporting

Content Areas where Respondents Tend to Spend the Most Time Covering Material in a Remedial Fashion:

- Journalizing Transactions
- Preparation of Adjusting Entries
- Solving Present and Future Value Problems
- Amortization of Bond Premium and Discount

## 7. COMMENTS FROM RESPONDENTS

A few respondents offered comments or opinions on the study and its premise. One respondent shared his opinion that introductory accounting has very limited relevance to Intermediate student performance, and that students' level of cognitive skills is the primary determinant of their success. He also offered that SAT score is probably the best predictor of success in Intermediate Accounting, and that the basic function of Intermediate Accounting is to wash out weak students. Many in accounting education may share these views, and while studies examining the relationship between SAT score and success in introductory accounting (Marcheggiani, et al., 1999), and overall accounting grade point average (Nourayi and Cherry, 1993) have been conducted, an investigation of a more direct connection between SAT score and success in Intermediate Accounting may be an area for future research. Other respondents expressed an interest in our findings because they had considered similar questions when designing introductory accounting curricula.

## 8. CONCLUSION

Are we short-changing accounting majors? Does the curricular design or the pedagogical approach employed in introductory accounting courses have a perceived impact on the preparedness or performance of students in Intermediate Accounting? It appears not. The results of this study do not show significant differences in perceived performance or preparedness of students coming from different introductory course delivery modes.

What other factors may contribute to the perceived performance or preparedness of accounting majors at the Intermediate Accounting course level? One factor that may sway an Intermediate Accounting instructor's perception of preparedness is the level of importance that an instructor places on particular content areas. As was shown above, instructors employing the preparer approach place significantly higher levels of importance on introductory courses than those employing the user approach. The preparer approach group also reported less improvement in performance than the user approach group. Another observation made as a result of this study is that Intermediate Accounting instructors report an average of 21 years of teaching experience. Most of the study respondents are CPAs who have been teaching (and quite probably have not been in practice) for several years. Instructors' perceptions of a declines in student performance may be flawed, that is, these instructors may just be feeling the frustration of an increasing body of financial accounting material that must be covered in a limited number of Intermediate Accounting course hours. Intermediate instructors should seek the advice of professional accountants currently in practice as to the content areas that should receive priority in their courses to better align students with the needs of the profession.

Should schools design introductory accounting courses to serve only majors or only non-majors? It appears not. Given budget constraints, it seems that institutions can continue to serve a diverse group of students with blended introductory level courses without severely impacting the accounting majors. Content areas that are believed to deserve more attention (adjustments, time value of money, cash flows, and disclosure) should be addressed at individual institutions' department level.

Another observation on the design and delivery of courses is that although there is a tendency toward the Financial/Managerial curricular configuration, Principles I and II is not going away. The same is true for the approaches taken: the sample is divided among the user, preparer, and combination approaches. Although at some point over the past 20 years many institutions have changed the design and approach of introductory accounting courses, it appears that instructors have chosen the combination with which they are either most comfortable delivering or that they feel is most effective, or both. Per this study, only a handful of institutions were considering changing structures or approaches. In other words, the sample is divided into camps with common structures. These camps will probably converge only slightly in years to come. Hopefully, accounting majors will obtain adequate knowledge and skills in financial and managerial accounting at the introductory level to be successful in Intermediate Accounting courses regardless of the curricular design or the pedagogical approach employed.

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**AUTHORS’ COMMENTARY**

We do not argue with the call for change in accounting education, and we concur with most of the strategies that have been suggested for achieving change – including the user (instead of preparer) approach to teaching introductory accounting courses. However, we believe that too little emphasis on debits, credits and financial accounting principles may lead to a generation of accountants who rely on the judgment of those less qualified to record and disclose transactions.

While the number of accounting majors is relatively small compared to all other majors in an institution’s business school or department of business, those choosing to go on in accounting should not be short-changed. Tailoring the introductory courses to serve accounting majors, business majors, and a variety of non-business majors that have a “management” component in their curriculum (and therefore require introductory accounting courses) may save resources. But this approach may fundamentally harm accounting majors, and in doing so, provide a disservice to the profession. We believe our duty is to our accounting majors first when designing the curriculum of accounting courses.

A possible (but not practical) solution to the potential short-changing of accounting majors is the offering of separate sections of introductory courses for majors only, offered in the Principles I and II sequence. Another solution may be to require accounting majors to take a one-credit, co-requisite in addition to each of the three-credit courses in the Financial and Managerial Accounting introductory sequence, focusing on the recording and reporting of transactions. A third option may be to design a three-course Intermediate Accounting sequence to completely cover the financial accounting topics necessary for those expecting to sit for the Uniform CPA Exam. With 150-hour programs in place in most accounting degree-granting institutions, there is, per the advice of advocates for change, room to cover advanced financial topics at the graduate level. However, a shortfall in basic principles at the very beginning of the students’ program carries what we feel is a risk of future shortcomings. Though our study does not prove this statistically, the effects may not be noticed until later in students’ academic or professional careers.

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# MICHAEL DUKAKIS AND KENNETH STARR: A CONTRAST OF TWO PROMINENT LEGAL LEADERS

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## INTRODUCTION

Oliver Wendell Holmes once stated, “What lies behind us and what lies before us are tiny matters compared to what lies within us” (as cited in Covey, 1989, p. 96). Former Governor Michael Dukakis and Dean Kenneth Starr occupy very different positions in American politics, perhaps diametrically opposite to the casual observer, yet both have enjoyed the triumphs of being leaders in their field, despite facing the challenges of negative public opinion. The purpose of this paper is to reveal their story in an attempt to discover what similarities and differences each legal leader shares. In this paper, distilled philosophies from personal, face-to-face interviews with Dukakis and Starr will be presented, along with an analysis of the results that were gathered.

## SYNOPSIS OF DUKAKIS INTERVIEW

On February 17, 2006, former Governor Michael Dukakis was interviewed by the authors at his University of California, Los Angeles office. As a prominent leader, Dukakis led Massachusetts through one of the state’s largest economic and unemployment crises in its history. In 1986, the National Governor’s Association elected him the most effective governor in the nation. In the 1988 presidential election, Dukakis received more than 42 million votes from the citizens of America, more votes than those received by Bill Clinton when he defeated George Bush and Ross Perot in 1992. Today, the Harvard Law School graduate is a visiting professor at UCLA during the Winter quarter as well as being on the faculty of Northeastern University in Massachusetts.

When asked about today’s legal environment and socioeconomic advancement, Dukakis stated, “We are doing a lot better than we were 50 years ago” (M. Dukakis, personal communication, February 17, 2006). He added that we (Americans) wouldn’t have the right to public counsel if it weren’t for the fact that the Supreme Court decreed that every defendant should be entitled to a lawyer.

He related that when lawyers take certain cases for contingency fees, the underrepresented can receive legal counsel that normally would not be available to them. Many law offices, for example, pursued class-action lawsuits, and sued tobacco companies. He reflected, “Does that mean you don’t put any restriction on this?” (M. Dukakis, personal communication, February 17, 2006).Dukakis (personal communication, February 17, 2006) concluded:

> There’s a balance you need to strike here. But in general, for the folks at the bottom of the spectrum, they have a broader array of legal rights. Is it ideal? No, but it’s a lot better. In that sense, we’re doing so much better than 50 years ago.

Dukakis is pleased that Americans have access and representation under our system.
When the focus of the interview shifted to the topic of constitutional law, Dukakis (personal communication, February 17, 2006) said:

> I don’t understand what’s going on there. Conservative communities say they want judges who are strict constructionists. There’s another group of conservatives that say the President can do anything he wants. If the people who initiated the constitution were still alive today, they would have to say, “Huh?”.

To emphasize this hypocrisy, Governor Dukakis added, “If the President has the lawful right to authorize wire taps without a warrant, what’s the purpose of the Patriot Act?” (M. Dukakis, personal communication, February 17, 2006). Further, he snapped, “The conservatives said the President can do anything he wants. This is not the constitution of the United States. The constitution of the United States says congress must approve war" (M. Dukakis, personal communication, February 17, 2006). Referring to constitutional debates of the past, he added, "The argument was that former kings used war as a means to divert the public's attention from the problems at home. You appreciate that they were very wise people when you study history" (M. Dukakis, personal communication, February 17, 2006).

Dukakis (personal communication, February 17, 2006) went on to say:

> If you want to give the President unlimited power to do anything he feels like doing, then amend the constitution! But this document limits what government can do, limits what president can do, limits to what congress can do. That's where my concern is. I think we're very confused as a nation. I have a strong concern about what government can do to our civilization.

When referring to Justice Scalia, his classmate at Harvard, Dukakis (personal communication, February 17, 2006) said:

> I'm sorry, but it was the most bizarre interpretation, and it has come from the conservative side, like my classmate Scalia. Can you believe that? He is not as smart as I think he could be. He is supposed to be a smart guy.

Another major concern of Dukakis is America's involvements in the Middle East. He emphatically stated, "It was a terrible mistake to invade Iraq" (M. Dukakis, personal communication, February 17, 2006).

When asked about the challenges that he faces in his current position, it was apparent that he was still filled with a passion for social justice and a deep commitment for causes that promote civil liberties. "For most of us that get involved in public service, you do so because you see things that seem to you to be very different from our expressed values, and you want to do something about it," (M. Dukakis, personal communication, February 17, 2006) he stated.

Dukakis dedicates an entire class with his UCLA public-policy students to the subject of corruption and leading with integrity. He said, "There is no reason why you cannot set high standards of integrity for yourself in public life, meet those standards, and be effective. There's nothing inherently corrupt about being in public life" (M. Dukakis, personal communication, February 17, 2006).

Today, his deep concerns include America's substandard health care system, the crises in public transportation, promoting a longer school day, and ending the war in Iraq. "I'm very concerned about the world," he noted (M. Dukakis, personal communication, February 17, 2006). When asked about a major accomplishment that he had yet to achieve, he replied, "I signed the universal health care bill in the Commonwealth of Massachusetts in 1988 that has still not been fully implemented. And it's one of my great frustrations" (M. Dukakis, personal communication, February 17, 2006). He said, "What I hoped would be a model for the country never got there" (M. Dukakis, personal communication, February 17, 2006).

Dukakis, as do most politicians, sees the world as full of possibility. Zander and Zander (2000) point out, "Once you have begun to distinguish *that it's all invented,* you can create a place to dwell where new inventions are the order of the day" (p. 17). When asked how he became a leader in his field, Dukakis shared that as a student, "I had been chairman of the students for democratic action … had been a chairman for a membership drive for the ACLU" (M. Dukakis, personal communication, February 17, 2006). He cared deeply about social justice and the possibility that parts of his vision could become a reality some day. Dukakis remembered, "I became the campus barber because, in the '50s, a black person couldn't get their haircut at a regular barber shop. I figured this was my opportunity to combine passion for social justice with economic opportunity" (M. Dukakis, personal communication, February 17, 2006).

Professor Dukakis was asked how he originally became involved in politics. He explained, "I started at about as low on the totem pole as you can get!" (M. Dukakis, personal communication, February 17, 2006). He continued, "If you believe deeply in the expressed values of this country and you're looking at [discrimination], you want to do something about it. It drives you. You can do it [create change] most effectively by holding a political office" (M. Dukakis, personal communication, February 17, 2006). He felt that through many leaders' visions of possibility, we, as a nation, have created positive social change, pointing out the major advances in civil rights during the past 38 years. He also highlighted the opportunities for the sons and daughters of immigrants, such as him, to hold public office. In summary, he stated, "It's American society that's getting better" (M. Dukakis, personal communication, February 17, 2006).

To understand better how he ultimately decided to run for president, he was asked: When you were at that point that you were considering running for president, was there a paradigm shift in your mind that said: *This is possible for me*. Dukakis responded, "Yes, yes! I took off 3 months to reflect on this. This is a huge responsibility. I don't even know if I can do it" (M. Dukakis, personal communication, February 17, 2006). He believed that he had broad support and could have won if it were not for personal attacks he did not parry. His confidence sprang from his belief in the possibility that he could be elected. "[O]n the whole, you are more likely to extend your business and have a fulfilled life if you have the attitude that there are always new customers out there waiting to be enrolled" (Zander & Zander, 2000, p. 21). Perhaps no statement could better capture the philosophy of former Governor Dukakis than that.

Synopsis of Starr Interview:

In conducting a face-to-face interview with Dean Kenneth Starr, it became apparent that he is a man of great morals who is passionate about issues of social justice and its intersection with constitutional interpretation. After a career as lead counsel in the infamous Whitewater probe, Solicitor General under George H. W. Bush, U.S. Court of Appeals judge, and clerk to former Supreme Court Chief Justice Warren Burger, Starr accepted the position of Dean of the Pepperdine School of Law, where he currently serves.

When asked what he felt the major legal issues of today are, he stated "I believe the fundamental question right now in law is really one for our society and culture and that is: who governs?" (K. Starr, personal communication, March 6, 2006). He added "What is the appropriate role of the judicial branch?" (K. Starr, personal communication, March 6, 2006). In addressing the question in further detail, Dean Starr placed the subject in a historical context by referring to Alexander Hamilton and the issue of constitutional ratification. He commended the insight of Hamilton for recognizing that federal judges with special power may end up abusing that power (K. Starr, personal communication, March 6, 2006).

Relating this to the present era, Dean Starr referred to a Gallup survey pertaining to judiciary views of Americans. According to Starr, a majority of Americans believe, "the courts have spiraled out of control and are governing America" (K. Starr, personal communication, March 6, 2006). Contributions to this view fall under the general umbrella of *culture war issues* such as abortion, the right-to-life, and the courts' involvement in these. This, in his opinion, is leading to a general perception that the courts in America are governing the country. He stated, "Should we, in fact, be asking the courts to decide on issues such as same sex marriage?" (K. Starr, personal communication, March 6, 2006). To Starr, the problem of who it is that governs is by far the greatest legal issue of today. He (Starr, 2002) adds that during Bush v. Gore, "There was a genuine sense in many quarters that the court had assumed an overtly political role, with Republican appointees cobbling together a majority of votes to give the election to George W. Bush" (p. 264).

Making the transition from the topic of legal issues, Dean Starr was asked what challenges he faced in his position. Immediately, he noted that he identifies challenges as opportunities. Then, he replied, "One is to maintain the beautiful culture of community and a tradition of caring and nurturing teachers … and mentoring that I have inherited [at Pepperdine]. So to maintain and to be faithful to that culture" (K. Starr, personal communication, March 6, 2006). He later added, "We care about each student as an individual and we care about the student holistically" (K. Starr, personal communication, March 6, 2006). To validate this point, he stated how Pepperdine's faculty are not like those of most prestigious law schools in that they are accommodating and nurturing to students, even going so far as to welcome students into their homes (K. Starr, personal communication, March 6, 2006).

He added, "The second opportunity is, while maintaining fidelity to that culture … to intentionally and consciously increase and enhance the reputation of the school of law, nationally and beyond" (K. Starr, personal communication, March 6, 2006). To help enhance the reputation of the school, he created two new positions—an associate dean of student life and an associate dean of research. The associate dean of student life was created to enhance and stay consistent with Pepperdine's culture, which emphasizes the opportunity for students to live a life that is both spiritual and deep. The School of Law's latest club, the Legal Waves, is a product of Dean Starr's endorsement of solidarity and community within Pepperdine's enriching culture for students. To enhance the school's reputation, Starr established an associate dean of research. The concept behind the position is to encourage faculty members to be more purposeful in scholarly research and activity. He intends for this associate dean to help maintain more of a balanced culture—one of teaching, mentoring, and engaged scholarship (K. Starr, personal communication, March 6, 2006).

Speaking further on the opportunities that he is embracing within his role, Starr referred to three specific entities within the school—a dispute-resolution institute, a center for entrepreneurship and the law, and an institute for law, religion, and ethics. "[The entities were created] to really embody and fulfill the vision of George Pepperdine who was a man of faith and an entrepreneur" (K. Starr, personal communication, March 6, 2006), he stated, adding that the social justice component of the center for entrepreneurship "Boldly embodies his vision" (K. Starr, personal communication, March 6, 2006) and sets the school apart. He is proud of the entrepreneurial spirit of his students, as was evident when he spoke of a student who was cofounder of a business that employed 9 other Pepperdine students (K. Starr, personal communication, March 6, 2006).

Dean Starr was asked about the challenges he thought those of different socioeconomic backgrounds faced in today's legal environment. "The enduring issue in American society remains access to justice and how can the justice system be made fairer and more accessible to those of modest means and certainly to the poor" (K. Starr, personal communication, March 6, 2006), was his initial response. Then, he referred to how his school was pioneering legal aide for those of lower socioeconomic backgrounds when he said, "It gives me great satisfaction, I am gratified that this school of law, again, part of what I inherited in the culture, is viewed as the pace setter in Christian legal aid" (K. Starr, personal communication, March 6, 2006).

Starr's concerns for social justice particularly relate to international human rights and religious persecution, the topic of a conference that the school will host next year. In referring to a nationwide issue of lack of access, the inability to afford a lawyer, and in maintaining a culture of service at Pepperdine, Starr said, "Our center for entrepreneurship is very focused … on social entrepreneurship" (K. Starr, personal communication, March 6, 2006). He added, "One of the areas where the profession has fallen short is the [ability to fulfill] the need to serve the poor" (K. Starr, personal communication, March 6, 2006).

The conversation then shifted to one of the most controversial topics among Americans—the death penalty. Starr directed the discussion to the recent Michael Morales death penalty case (in which he was counsel). To him, the issue was an ethical one, since a man was sitting on death row because of perjured testimony, yet he lacked the financial wherewithal to afford appropriate legal representation. "If a law firm had risen to the challenge … the call to serve, who knows" (K. Starr, personal communication, March 6, 2006), he added. When asked about the feeling toward the death penalty at Pepperdine, a Christian university, Starr said, "The community is very divided. There's a very strong abolitionist sentiment" (K. Starr, personal communication, March 6, 2006). However, he is a proponent of the death penalty in cases where a high degree of confidence of guilt is established (K. Starr, personal communication, March 6, 2006).

Finally, Dean Starr was asked how he became a legal leader in his field. "By God's grace" (K. Starr, personal communication, March 6, 2006), he humbly answered. He spoke of becoming a refugee to law school after dabbling as a political science major at Brown University. Demonstrating an interest in normative subjects instead of science, he shared that he chose law school, "because it was about real people with real problems" (K. Starr, personal communication, March 6, 2006). After doing very well academically, Starr served as a law clerk to a federal judge, worked within the appellate court system, and after many years, grew to prominence as one of the most renowned attorneys in the United States (K. Starr, personal communication, March 6, 2006). When informing him that Los Angeles Mayor Antonio Villaraigosa cited “indefatigable energy” (A. Villaraigosa, personal communication, August 27, 2006) as a secret to his success, Starr replied, “I am blessed with a high energy level, so I can see why the mayor points to that” (K. Starr, personal communication, March 6, 2006).

Though, at one point in his career, Starr would have been honored to be asked to serve on the Supreme Court (he was a finalist for the position that Justice Souter holds), his focus now is, “building on the solid foundation that has already been laid [at Pepperdine University]” (K. Starr, personal communication, March 6, 2006). After engaging in nearly a 1-hour interview with the dean, it is clear that this is certainly the case.

Analysis:

The authors initially chose Michael Dukakis and Kenneth Starr as interviewees because both were very well-known public figures who, to the outside observer, personified each of their political party’s philosophical underpinnings. It was anticipated that a paper contrasting these two leaders would illustrate the schism between the America’s right and left. Furthermore, it was anticipated that interviews with Dukakis and Starr would be dicey, partisan, and opinionated, leaving much fodder for interesting insights and comparisons. This was not the case.

Both men were gracious hosts, making an effort to accommodate the interviewers and to provide, openly, information about themselves, their history, their motivations, and personal feelings. Though very articulate, intelligent, and knowledgeable, each displayed genuine humility. Both were unusually affable and exuded a strong leadership presence.

Though they technically represent two ends of the political spectrum, the interviewers were surprised to discover that in theory and philosophy they were not disparate. They embraced the same values, ethics, and morals and had equal concerns for the poor and underprivileged. Each was dedicated to defending the rights of everyone, irrespective of their ethnicity, socioeconomic strata, or beliefs, to legal representation and protections under the law and constitution. Social consciousness and responsibility were prominent threads throughout their discussions.

The importance and history of the constitution was a topic each interviewee felt compelled to discuss. While Dukakis was troubled by the constructionist interpretation of the constitution by conservatives and abduction of excessive presidential powers by Bush, Starr was equally concerned by the role of the judicial branch of government and the perception that they were blurring the fundamental issues of governance. Each, therefore, felt that the check-and-balance system the founders envisioned needs to be revisited regularly to prevent any branch of government from having disproportionate power. Both recognized that power, wherever it resides, has a tendency to be abused.

Dukakis and Starr share many recognized characteristics of effective leaders. They both appear selfless in their drive to serve the public and to contribute in general. They are servant leaders in that they are empowered by empowering others. Each is kind and giving plus articulates a clear and vivid vision of their goals and purpose. Both project dedication, integrity, and a high level of energy.

While Dukakis is primarily involved with national and regional issues such as universal health care and public transportation, Starr is focused on elevating the Pepperdine Law School into international prominence and spearheading projects such as enriching student culture, scholarly research, and entrepreneurial law. By virtue of their respective positions, their emphases are appropriate.
UCLA and Pepperdine are fortunate to have Dukakis and Starr on their faculty. Both are exceptionally student centered and dedicated to teaching. Starr expresses the importance to, “maintain the beautiful culture of community and a tradition of caring and nurturing teachers”(K. Starr, personal communication, March 6, 2006). Dukakis (personal communication, February 17, 2006) relates:

> I spend a lot of time, personally, with my students. I don’t have office hours; my door is always open. I think a good public policy or political science faculty should spend most of their time trying

to encourage and inspire these kids.

How did these remarkable individuals arrive at their current stations in life? Both had rather humble beginnings and neither knew that they would ultimately become prominent legal leaders. A common driver, apparently, was a passion for social justice and the need to create positive change. Dukakis commented, “to get involved with elective politics, the place to start is get involved in the campaign of somebody who we like, respect, and whose values we share” (M. Dukakis, personal communication, February 17, 2006). Starr explained why he changed his major to law, “because it was about real people with real problems” (K. Starr, personal communication, March 6, 2006). That strong connection to people, society, and values, coupled with intelligence and drive, permitted each man to distinguish himself and become internationally recognized. Both contend that luck, or providence, was responsible for their success. However, a popular definition of luck states that it is, “that moment when opportunity meets preparation” (Zig Ziglar, n.d.). Michael Dukakis and Kenneth Starr have both seized the opportunities that have presented themselves throughout their careers. As a result, they have positively influenced the lives of Americans through an earnest dedication to public service.

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**Appendix A**

Biography of Michael Dukakis (from UCLA School of Public Affairs)

Michael Stanley Dukakis was born in Brookline, Massachusetts on November 3, 1933. His parents, Panos and Euterpe (Boukis) Dukakis both emigrated from Greece to the mill cities of Lowell and Haverhill, Massachusetts before marrying and settling down in the town of Brookline, just outside Boston. Dukakis graduated from Brookline High School (1951), Swarthmore College (1955), and Harvard Law School (1960). He served for two years in the United States Army, sixteen months of which he spent with the support group to the United Nations delegation to the Military Armistice Commission in Munsan, Korea.

Dukakis began his political career as an elected Town Meeting Member in the town of Brookline. He was elected chairman of his town's Democratic organization in 1960 and won a seat in the Massachusetts Legislature in 1962. He served four terms as a legislator, winning reelection by an increasing margin each time he ran. In 1970 he was the Massachusetts Democratic Party's nominee for Lieutenant Governor and the running mate of Boston mayor Kevin White in the year's gubernatorial race, which they lost to Republicans Frank Sargent and Donald Dwight.

Dukakis won his party's nomination for Governor in 1974 and beat Sargent decisively in November of that year. He inherited a record deficit and record high unemployment and is generally credited with digging Massachusetts out of one of its worst financial and economic crises in history. But the effort took its toll, and Dukakis was defeated in the Democratic primary in 1978 by Edward King. Dukakis came back to defeat King in 1982 and was reelected to an unprecedented third, four-year term in 1986 by one of the largest margins in history. In 1986, his colleagues in the National Governors' Association voted him the most effective governor in the nation.

Dukakis won the Democratic nomination for the presidency of the United States in 1988 but was defeated by George Bush. Soon thereafter, he announced that he would not be a candidate for reelection as governor. After leaving office in January 1991, Dukakis and his wife, Kitty, spent three months at the University of Hawaii where Dukakis was a visiting professor in the Department of Political Science and the School of Public Health. While at the University of Hawaii, he taught courses in political leadership and health policy and led a series of public forums on the reform of the nation's health care system. There has been increasing public interest in Hawaii's first-in-the-nation universal health insurance system and the lessons that can be learned from it as the nation debates the future of health care in America.

Since June 1991, Dukakis has been a Distinguished Professor of Political Science at Northeastern University and visiting professor at the School of Public Policy & Social Research at UCLA. His research has focused on national health care policy reform and the lessons that national policy makers can learn from state reform efforts. He and the late former U.S. Senator Paul Simon authored the book titled "How to Get Into Politics—and Why," which is designed to encourage young people to think seriously about politics and public service as a career.

Dukakis was nominated by President Clinton for a five-year term as a member of the new Board of Directors of Amtrak, The National Railroad Passenger Corporation on May 21, 1998 and served as Vice-Chairman on the Amtrak Board.

Mike and Kitty Dukakis have three children: John, Andrea and Kara, and are the proud grandparents of Alexandra Jane Dukakis, Harry Nicholas Hereford, Josephine Katharine Hereford, Olivia Dukakis Onek, and Peter Antonio Dukakis. ("Michael Dukakis", n.d.)

**Appendix B**
Biography of Kenneth Starr (from CNN)

Republican attorney Ken Starr, who took over the Whitewater probe in August 1994, possesses an all-star Washington resume that includes stints as Solicitor General under George Bush, a U.S. Court of Appeals judge, and clerk to former Supreme Court Chief Justice Warren Burger.

Though viewed by some as too partisan, Starr's inquiry was energized in May 1996 by the convictions of three Whitewater defendants -- former Arkansas Gov. Jim Guy Tucker and former Clinton business partners Jim and Susan McDougal. Since then, Attorney General Janet Reno has expanded the scope of Starr's probe to consider whether laws were broken with regard to Travelgate (the firing of seven longtime White House travel workers) and the FBI files flap (the White House's improper collection of background files).

Starr's momentum slowed in July, when the jury in the second Whitewater trial acquitted Whitewater defendants Herby Branscum Jr. and Robert Hill on several counts of bank fraud, and deadlocked on the other counts. Though some had predicted an "October Surprise" of campaign season indictments, Starr kept a low profile throughout the fall.

Since then, a vocal band of detractors, including Democratic strategist James Carville and Whitewater defendant Susan McDougal, have sought to portray the independent prosecutor as bent on a politically motivated effort to destroy the Clintons. Though Starr has retained a prominent Democratic lawyer for ethics advice, his decisions to speak at a law school founded by evangelist Pat Robertson, and to maintain private clients with interests opposed to the Clinton Administration, have given his critics ammunition.

More damaging, however, may have been Starr's February 1997 flip-flop. After word leaked he planned to resign from the Whitewater probe effective Aug. 1, 1997, to accept a position as dean of Pepperdine University's law school, Starr reversed himself in the face of intense criticism. Even defenders questioned his judgment and he admitted his error.

Starr has assembled small armies of lawyers in Little Rock and Washington for an investigation that, by various accounts, is fast approaching its moment of truth -- namely, the decision whether to issue indictments against the president, the first lady, or any of their associates. ("All Politics—Players—Kenneth W. Starr," March 3, 1997).

**Appendix C**
Interview Questions

1. What do you feel are the major legal issues of today?
2. What challenges do you face in your position?
3. What challenges do you think those of different socio-economic backgrounds face in today's legal environment?
4. How would you describe how you became a legal leader in your field?

# RISK TRANSFER SOLUTIONS FOR NATURAL CATASTROPHES IN ROMANIA

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## ABSTRACT

*Most countries in the world are suffering from natural disasters caused by floods, earthquake, tornado and even tsunami. The developed countries have efficient techniques of covering such tragic events, but also the damages and losses are huge. A delicate problem appears when the catastrophes occur in a less developed country – where the risk transfer mechanisms aren't known or applied by local governments. One reason of missing such a protection plan is the lack of financial resources from the people. In this paper we will both a theoretical and practical analysis of the situation that exist in Romania, and the steps that Romanian Govern intend to take, in order to decrease the exceptional expenses from the national budget – cause by natural disasters.*

***Keywords:*** *Earthquake, Floods, Insurance, Risk Management, Compulsory*

## 1. INTRODUCTION

Nowadays globalization is certainly one of the hottest issues in relation to world economy, politics, culture, and society. As a evolution of this phenomena's, the insurance legislation is trying to be the same with the European union legislation, so there are serious concerns about the compulsory character of home property insurance against the catastrophic risks. The transformations from the last 5 years from he labor market show that insurance industry has a big numbers of companies, which knew a high rhythm of development in the last years and will have the same previsions of growth for the future

## 2. NATURAL CATASTROPHES IN THE WORLD

To demonstrate the necessity of such insurance, we show that on international level there is a big concern about the catastrophic risks. Is very well known that some risks can not bi prevent- (Tsunami in December 2004). So, there are lots of experts, specialized companies, non-profit organizations, governmental organizations witch allocate funds to prevent if is possible the apparition of this events and to decrease the negative effects in case that catastrophic risks appear.
In the most areas (regions) of earth the most affected population are the people from village, which also have low (small) financial resources and are in generally poor. If we want to make a study of the situation from our country, we can notice from the below information that this kind of people are also the most affected by natural catastrophe in Romania.
World wide there are numerous statistics about floods and we can notice that even the most developed countries – USA for example, are dealing with the same problem. When hurricanes and tornadoes appears, with all the protection measures taken, the losses are huge. The worst losses in USA are:
1- Hurricane Andrew 21,542 mil. USD, in 2003
2 - Hurricane Ivan 10,000 mil. USD, in 2004
3 - Hurricane Charley 8,000 mil. USD, in 2003
In the same statistic are the effects of Northridge Earthquake in USA with 17.843 million USD. Also in Japan – Tornado Mireille caused losses of 7.831 million USD in 1991, in France and Swiss Lothar Snow Storm caused losses of 6.500 millin USD in 1999.

Because of the high temperature from the last years our country is exposing in the future to a catastrophic floods. A research of European Agency of Environment show that Germany, Hungary, Romania and Switzerland were the worst affected of flood area in the last years. For the next future, the agency is estimating a growing of the number of flood, especially in the countries mentioned above. The conclusions of the study, presented by the European Agency in this spring don't show very good news for Romania (are ominous). Climatically changes and growing in intensity of the floods will determine an overflow of the rivers and high floods, especially in the centre, north and north east of Europe. European

specialists mentioned in the study the climate fluctuation and the floods from Europe- are foreseeing an increase of the number of local floods, devastating floods,   - short time floods -, which will determined a high number of victims.
Changes in precipitations conditions - the tendency of the frequency and intensity of floods will be very close by the modifications in precipitations conditions, by overflow and by the climatically changes on the long term. The annual precipitations grow in the centre and the north of Europe with 10-40 % in 1999-2000 and in the meantime in the south of Europe they decrease with 20%.  The model of seasonal modifications show that in the winter time, the south and east of Europe become more dry, and in the meantime in many regions of north –west of Europe  become more abundantly in precipitations. Prognosis indicate increases of annual precipitations in north of Europe and summers more abundantly in precipitations in the most part of Europe.
The study shows that Europe had significant increase of temperature in the last 100 years, especially in the last decade. The worm year in Europe in this period was 2003.
The wave of heat which pass throw Europe in august 2003 cause 35000 victims. The consequence of this heat was felt more in the north west of Russia an Iberia.
We can estimate that until 2070 the overflow will decrease with 50% in south and south east of Europe and will increase with over 50 % ore more in many oft the regions from north or north east of Europe.
1000 seriously floods in 6 years. From the analysis of the international data base, referring to disasters shows that floods represent 43% from totality of disasters between 1998 -2002. In Europe record in this period, 100 serious floods which caused 700 victims. Also, floods, determined the migration of approx. half million of people and economic damage about approx. 25 billion euro.
Floods covered an estimated area of 1 million kilometres. About 1.5% of Europe population was affected. Through January until December 2002, were 15 important floods in Austria, Czech Republic, Germany, Hungary and Russia with approx. 250 victims and more then 1 million people affected.
The extreme phenomenon will become more frequent. Dr Roxana Bojariu, from Environmental Changes Department of INMH declared that extreme phenomenon like storms, high precipitations; drought will become more frequent.
The global climatic system is trying to find a balance after the batch of ozone was affected and after the extreme phenomenon was more frequent. This will have different results all aver the world. In our country, for example alternate periods of high precipitations and low temperature with hot days, and in the meantime in Portugal or Spain there are terrible drought.

## 3. SOLUTIONS FOR COVERING NATURAL CATASTROPHES IN ROMANIA

Extrapolating these things in Romania, we notice that in this country there are also violent and catastrophic natural events.
In Romania, in 2005 Teleorman district with over than 5000 houses awash, is the most affected district from the floods (4728 houses were affected, 291 were totally destroyed, and other 1502 has serious troubles.) The gashing waters killed more than 10000 of animal and birds, inundate 6133 houses, 31 schools, hospitals, or administrative buildings, damaged 66 bridges and destroyed over 6 kilometres of national roads and 107 kilometres of district roads.

In 12.04.2006 after a year from the devastating floods in Banat, the people are confronting again with the fury of the water. Some houses from Gataia and Sculea were affected by water, at the foundation (basement) level. In total more than 140 houses were flooded in Timis district, 340 houses in Caras Severin (especially in Ghertenis). The national road 58B was bumped and the cereals were destroyed in hundreds of hectares.
Also 40.000 land hectares were covered by Danube and the losses are over 2.5 millions EUR. The worst problems appeared in Dolj district where 700 houses from Rast village were flooded and 115 completely destroyed.
The national Govern set up a Risk Management Committee that oversees the execution of the five-step risk management process:
- First stage: identify the risks. The nature evolution involves some degree of risk or uncertainty about future events. The first step in managing those risks is to identify them. No matter how probable or improbable a risk may seem, the employees of this Committee list it during the first stage of the risk management process.

- The Second stage: Evaluate and prioritize risk. Under step two the committee assesses the probability of each risk becoming reality and estimates the possible effect and cost for the national budget / or for individuals. The specialists must look at the past natural catastrophes in developing probability and cost estimates. Also consider the possible public reaction to an adverse event. Priority areas of concern will include those risks that are most likely to occur and are expensive when they do happen. Lower priority risks are those that seldom occur and are not likely to cost as much when they do happen.

- Managing the risks: The Govern must decide how to manage catastrophic risks, using risk management strategies. The risk management committee's next task is to develop a written plan. The plan outlines how Romania will manage its major risks. The plan describes the suggested strategy, or combination of strategies. The basic strategies for controlling risk are:
a) Risk Avoidance
b) Modification of some conditions
c) Risk Retention. Accept all or a part of the natural catastrophic risk in a special budget
d) Risk Sharing. Consider sharing the risk with another organization – pool of insurance, reinsurance

- Implement risk management plan. Once the appropriate governing body reviewed the plan, the Romanian Govern should formally adopt and implement it.

- The last step: Review and revise the plan as needed. The nature of Commission requires that risk management strategies be revisited at least annually. The committee should continuously evaluate the risk management plan in order to maintain it relevant, comprehensive and effective.

In Romania – using National Statistic Institute report, from the building built before 1940, just 3% are insured, and the ones built after 1989 just 7% are insured. From June 2004 to May 2005 3% from the houses suffered losses, most of the losses were caused by floods (52.8%), robbery and theft (17%). The main reason (that generates the refuse to buy a homeowner insurance) mentioned by the people is the lack of sufficient money. The part of these people is 67%.
The survey was done on 10,920 homeowners, 91.7% answered to the questionnaire, and the error is +/- 3%. There must be mentioned that, after this survey came a natural disaster in Romania cause by floods.

The year 2005 may be considered the year of floods catastrophes, catastrophes increased by the lack of insurances to cover theirs effects. At the end of May 2005 Insurance Supervising Commission (CSA) proposed to the Govern a new project of law to decide about the compulsory character of homeowner insurance, taking into account every area risks exposure.
The project of law regarding compulsory homeowners insurance against natural catastrophes is desired to be active since 1$^{st}$ of January 2007. This project will be proposed to the Govern for approval at the end of June 2006, and during this summer the Specialized Commission of the Parliament will debate it. The applicable normative will be realized in October and will be approved by an Government Act. The Govern decided the maximum guaranteed sum insured will be 20.000 EUR, and the annual premium of 20 EUR.
If the value of a house is less than 20.000 EUR, the insurance premium will be smaller. If the value is more than 20.000 EUR, the homeowner has the choice of insuring the exceeding value to a specialized Insurance company. There will be also penalties for the people who won't pay this insurance. To this insurance program will participate insurance companies licensed by CSA. The main criteria will be financial performance and territorial existence. All these insurance companies will set up a reinsurance company to cede these risks outside of our country. This project is elaborated with the experts of World Bank. The specialists of the local insurance companies expect that won't be the possibility to insure all houses. The negativist specialists don't agree the idea of paying insurance for the people that built their houses in flooded area, or from poor materials, or houses already affected by floods or earthquakes. The reason is – lack of incertitude. More normal it is to be a different tariff for different situations. On the other side the initiators of this project mention the solidarity principle. The law will mention some fiscal facilities for poor people. The one who cannot pay the insurance premium will be helped; these amounts will be covered from the national budget.
The members of CSA don't believe that in the next 8 months this law will be active. The Govern expect the law to be operable from the 1$^{st}$ of January2007. But the people aren't prepared for it. For the moment

just a memorandum passed through Govern. There will follow a project of law to cover all the aspects of homeowner insurance. More over, in Romania adopting a law seem to be very complicated and long lasting. Even if the desired date is similar to the EU integration date, it is just a coincidence, because in EU there is no regulation about the compulsory character of homeowners insurance – and the percent of insurance is 80%. The initiative of such a insurance appeared in our country after the devastating floods in 2005, and from the Turkish experience after their earthquake.
There will also be a lot of debating about the fact that in our country aren't a risks map. Even if there is a project with World Bank that mentions the object to establish these maps, the end of it seems to be far away. The Transport, Tourism, Construction Ministers also has no map risks. Just a month ago a specialized commission has been set up to analyze some regions.

Almost 800.000 people already have a homeowner insurance (that means almost 10% from the insurable houses). And they must subscribe for a compulsory policy. After ending the policy year period, they can insure again their houses just after paying the compulsory one. So the whole 8 millions houses must be insured for 20 euro premium/year/house. This business seems to be very profitable for insurance companies – in case there will be no substantial losses. Just in one year the subscribed insurance premium for the entire market is 160 millions EUR. But there is no guarantee, because 2006 started with significant floods, the second consecutive year.

## 4. CONCLUSION

Taking into account these mentions the local insurance companies are preparing for competition. Some important insurance companies already divided the risks in theirs format policies. Now the risks are shared in general risks and catastrophic risks. The insurers offer by now promotional offers for buying homeowner insurance. In the moment this insurance will be compulsory, the insured people will present to the state supervisors the existing policy, and the one that don't have insurance must pay for a new policy.
Beside this method, CSA study in this moment the opportunity to set up a new reinsurance company whose shareholders to be most important insurance companies in the local market. In this way all insurance companies will sell the same policy at the same price. It is very possible in this case that local insurer to offer discounts to other insurance products to the ones that choose their company. And this will be benefic both for society and for insurance companies.

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## CONFLICT OF INTEREST, FRAUD, AND AUDITOR RESPONSIBILITY

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### ABSTRACT

*Conflict of interest occurs when an employee, manager, or executive has an undisclosed economic or personal interest in a transaction that adversely affects the company. Conflict of interest can lead to fraud. Fraud can be prevented if the company sets forth ethical guidelines that clearly state no employee can engage in a business transaction for the benefit of anyone other than the company. The SOX of 2002 has a provision to help detect or prevent fraud. SOX stresses the important of internal control system and auditor responsibility to plan and perform an audit to obtain assurance that financial statements are free from misstatement, whether caused by fraud or error.*

**Keywords:** Conflict of Interest, Fraud, SOX, Internal Control, Auditor Responsibility.

### 1. INTRODUCTION

Over the past two years it was uncovered by the NY Attorney General that insurance brokers were executing insurance transactions for their clients without disclosing conflicts of interest. Insurance brokers, by contract, are supposed to represent the interests of the prospective insurance purchaser. This is a stark contrast to independent insurance agents who serve are representatives of the insurance companies. Insurance brokers typically work on large risks such as all the Shop-Rite locations or coverage for Merck. These buyers are characterized by complex risk profiles.

In these situations, brokers work with numerous insurance companies to tailor coverage the represents the best trade-off of risk transfer and cost of insurance. The broker should be working on behalf of the insurance buyer to craft the best buy: not necessarily the lowest or highest cost. However, the Attorney General's investigations revealed that brokers such as Marsh & McLennan were engaged in extensive bid-rigging exercises in which their major consideration was maximizing their commission income from the placement of this business. These commission arrangements were not disclosed to their clients that clearly created a conflict of interest. As part of a settlement with the NY Attorney General, for example, Marsh agreed to certain client disclosure requirements, cessation of bid-rigging activities as well as very large fines.

### 2. CONFLICT OF INTEREST

The question of motive is largely what distinguishes bribery from conflicts of interest. In bribery schemes, the fraudster receives a kickback as compensation for approving the transaction with the firm who extended the bribe. In conflicts of interest, the fraudster's payoff comes from the undisclosed interest in the vendor's economic gain from the transaction.

Conflict of interest occurs when an employee, manager, or executive has an undisclosed economic or personal interest in a transaction that adversely affects the company. Even in a situation where an arrangement is extremely favorable to the employee, if the employer is aware of the employee's interest in the business deal or negotiation, there is no conflict of interest. Conflict of interest usually brings an economic benefit to the employee but can still occur even if the employee receives no financial gain. There are two types of conflict of interest schemes, sales and purchasing. An example of where the conflict of interest arises in the purchasing of goods could be buying materials from a vendor in which the perpetrator has economic interest, even if the price of goods or services is significantly higher than other vendors. A conflict of interest involving sales is when the perpetrator sells goods or services, to either themselves or to their personal business, at a cost lower than usual causing a lower profit margin to the victim company. A conflict of interest scheme occurs when an employee conducts business transactions, with either vendors or customers, that are harmful to the financial position of their employer, but beneficial to them, friends or relatives. Conflict of interest schemes are extremely difficult to prevent. The best thing a company can do to prevent them is to establish a company ethics policy that specifically addresses the problems and illegalities associated with conflicts of interest. This is necessary to clearly define what constitutes conflict of interest for the specific firm and to establish what conflicts are not appropriate. Another tool used by companies is an annual disclosure statement that needs to be filled out by employees. The company should compare names and addresses on the disclosure list with the company vendor list to check for any matches. Whatever approaches are taken, it is vital that the company clearly communicate with its employees both its policy on what is considered a conflict and the appropriate consequences so that an employee cannot claim ignorance.

## 3. FRAUD AND THE SARBANES-OXLEY ACT OF 2002

Fraud has the following four elements. 1) A false representation of a material nature; 2) Knowledge that the representation is false, or reckless disregard for the truth; 3) The person relied on the information to make decision; and 4) Financial damages resulting from using the information. There are ways that fraud can be detected early or prevented altogether. Fraud can be prevented if the company sets forth ethical guidelines that clearly state no employee can engage in a business transaction for the benefit of anyone other than the company. Many companies require employees to provide their signature as confirmation that they have read these policies. It can also be helpful to have employees disclose of their personal business interests and annually compare these disclosures to vendor or customer master file.

Majority of the time, these frauds are detected by employee tips. Therefore, it is important that companies have an anonymous hotline to report such activity without jeopardizing their confidentiality. Another way this may be discovered is by running employees names against the vendor and/ or customer master files to ensure that no employee is conducting business with them to benefit themselves.

To understand how the Sarbanes-Oxley Act of 2002 helps deter financial statement fraud it is necessary to be aware of the how these are committed. Financial statements can become misleading by fictitious revenues, concealed liabilities and expenses, improper disclosures, improper asset valuation and timing differences. The Sarbanes Oxley Act of 2002 (SOX) was created to prevent these frauds from occurring and aide in the detection process if they already have.

The SOX helps prevent financial statement fraud from occurring is the increased liability to the financial officers of a corporation. It is now a requirement for upper management to properly review the financial statements in their completeness to check for accuracy and truthfulness. If there is evidence of fraud in the financial statements and the chief officers have signed off on them, they will be held criminally liable along with the perpetrator. Since majority of people do not want to take the blame for someone else's wrongdoings, it is more likely that management will do a better job examining financial data and will blow the whistle if necessary. This leads to higher assurance o the users of the financial statements.

The Sarbanes Oxley Act also outlines stronger requirements on financial disclosures. This is extremely beneficial to users of financial information because disclosures allow them to see the non-financial factors that could make or break a company's position. The Act also requires full disclosures on the sale of stock from upper management. Obviously management will be aware of a loss before the general public. If an executive sells $2 million of his or her personal shares of stock, the information must be disclosed in the notes. This information could set off the necessary red flags for investors. Full disclosure requirements could also prove to be beneficial to investors in dealing with contingencies. If there is a possible loss of $5 million it may not need to be recorded on the financial statements themselves, but the transaction must be fully disclosed in the notes. If a company does not report this type of information, not only it misleads investors, but also it is in violation of the Sarbanes Oxley Act and can be held criminally liable in court.

The SOX also has enhanced auditor independence and stressed the importance of internal controls. Internal controls can prevent and detect employees from being able to manipulate financial data. Audit committees now have to include reviews of internal controls in their testing to ensure ethical and accurate transactions are being recorded in the general ledger. The guidelines of auditor independence have also been modified in the Sarbanes Oxley Act. Partners of these firms must now rotate every five years to ensure that they are truly independent from the company they are auditing. It is human nature to build relationships with the people you conduct business with. These relationships may lead to auditors trusting an individual's word over full examination of transactions that affect the financial statements. If employees of a firm know they have gained the trust of their auditors they may feel more tempted to commit fraud and thus the likelihood of the frauds being detected diminishes. Therefore auditor rotation is a necessary element in deterring fraud, as outlined in the act.

These are just a few examples of how the Sarbanes Oxley Act of 2002 has not only been beneficial to investors, but has been vital to the accounting world. As many things in accounting are subject to individual interpretation this acts sets forth guidelines to aide in the decision making process of how to handle and report various business transactions.

## 4. AUDITOR RESPONSIBILITY

There are ten steps an auditor must follow to detect financial statement fraud. After conducting an annual review if the auditor feels a fraud has occurred they must being a full investigation following the guideline established in SAS # 99. First the auditor must categorize the fraud as occurring from fraudulent financial reporting or from a misappropriation of assets. These general areas provide the auditor with an idea of what to expect and determines what areas will need to be tested heavily. The second section the auditor must oblige to is in practicing professional skeptism, meaning that they should expect the worst and prepare their testing schedules under that assumption.

The third step in this process is to have a brainstorm session amongst auditors to discuss the material risks that may be present. Audit committee members will discuss how they think the fraud was committed, why it was committed, who committed such acts and what the effects may be. The fourth step is to examine what may have lead to fraud. Various relationships among personnel, vendors and customers should occur during this step as well as interpreting management's attitudes towards the fraud. After these factors are considered the auditor must identify the risks that material misstatement has occurred because of fraud. Basically, the auditor is going to determine the scope of the fraud and determine what type of fraud has occurred, the possible material misstatement involved and the likelihood a material misstatement has occurred.

Once the auditor has fully assessed the fraud and risk factors involved, the team can now begin the testing process. They will use the information gathered from their various brainstorming activities and use this to outline their audit plan. In this step, they should examine the company's financial statements and if they were prepared by following the GAAP as well as the effectiveness of internal controls. After they have collected the necessary information, they should begin to evaluate the audit evidence and determine whether a fraud has occurred and, if so, what the material effects are on the financial statements. After all the above steps are completed, the audit committee must report its findings to management and outside auditors if necessary. All findings of fraud must be included in the audit report.

SAS # 99 also states the auditor's responsibility in examining such cases. Basically, the auditors has responsibility to plan and perform an audit to obtain assurance that financial statements are free of material misstatement, whether caused by fraud or human error. As stated above, if a material misstatement is found they must report their findings to the appropriate level of management, the audit committee and to outside parties in certain situations.

The following example is a real case for a fraud that has recently detected within an existing company and the full extent of the fraud has yet to be determined. This fraud is described below.

The President and Vice President of Sales of North America were found to have been involved in several types of fraud that dealt primarily with one of the company's vendors. The company is a third party carrier of a particular product that is usually used in conjunction with the items that company produces. This product is frequently sold on its own and provides about an eighth of company's revenues annually. The company also often purchases these units for various demos to show customers a fully integrated product. Basically, the two major perpetrators mentioned above were purchasing an excess amount of these units to use as demos. Since they were both very well liked and highly respected, no one ever thought anything suspicious was going on. It was discovered that these units were actually being sold to

customers off the books, causing a misappropriation of assets. The perpetrators would then collect customer payments and deposit them into personal bank accounts. It was also discovered that they were not the only ones involved in this scheme. The President of this particular vendor was directly involved and would record these purchases as demos on his company's books and deposit the payments into his personal account. This had been occurring for over two years and the fraud was detected when a girlfriend of the president of the vendor company found out she was dating a married man. She had known what was going on the whole time and reported it to the authorities to get revenge. The president was fired immediately. He revealed the names of two of the company's managers during investigations. In the past month, the company has also lost two more of sales managers to this group effort and the company is still undergoing employee investigations.
As stated previously, these two managers had the trust of every employee and their authority was never questioned. Not only were they involved in the above schemes, but they were also found to have been involved in purchasing, endorsement and expense reimbursement schemes. Since this has been discovered recently, the full effects are unknown. As of now, the company has lost millions of dollars, causing bonus reductions and layoffs. These frauds had caused understated revenues and overstated inventory for a couple years. When it came time for the physical inventory counts, the two managers forged signatures on the confirmation letters that were sent to customers who held demo units. Since the two managers will not be with us for the audited count this year, all of the overstated inventory will be written off causing a greater loss. Last fiscal year the company only had a couple recorded sales returns and this year we have noticed a significantly higher volume of returned merchandise. In trying to reconcile inventory, it was notice a couple emails, from the employees that were involved, telling customers to return the units back to their "home" offices. Since we had never gotten returns before, it is clear that the two perpetrators were reselling these used products to customers and collecting the cash themselves. While the company is still in the process of investigation, it is currently working towards a rebuild plan.

Part of the rebuild process is working towards a fraud policy that clearly specifies what departmental actions must be taken to deter these events from happening again. Each department should be held responsible if the necessary internal controls are not in place to prevent fraud. Since purchase orders were created upon a word of mouth request from the perpetrators in this case, it is now required that two signatures be provided upon request. A departmental manager and an accounting manager must approve all purchases before they are entered into the system. Backup for these requests must be kept for future reference. The handling of inventory also needs improvement. Some of the equipments are not heavy and can be taken off from the premises without approval. Any asset, such as inventory, that can easily be stolen should be locked up in a room with limited access. Demo units also pose a threat since they are held at an outside location. There should be a policy that requires sales clerks to sign off that they will be held liable if the equipment is lost or stolen.

The managers involved in the fraud also had check signing abilities with relatively high limits. While there is a two signature requirement on all checks, they were both involved in this fraud and would provide the signatures required to support these fraudulent activities. Check stock was easily accessible so they were able to write checks to themselves or others frequently and have it go unnoticed. Check stock should be locked up every night and signers should not be able to approve anything they were involved with.

Under this policy each department is responsible for ensuring ethical business practices. For example, if a blank check is carelessly left out the person in charge of safeguarding the checks should be held somewhat liable. If someone makes a purchase request and no authorization or backup is provided, the person who ordered the merchandise should be held responsible if a fraud occurs. Therefore, every department should look to strengthen internal controls and outline a policy on how business must be conducted. It is then the responsibility of each individual to make sure they are abiding the guidelines set forth in their departmental policy and the responsibility of the managers to make sure their employees are acting ethically. The Sarbanes Oxley Act of 2002 requires that upper management must be involved in the review of financial data. Management must provide a signature that all reported information is accurate and can be held criminally liable if fraud has occurred undetected.

Both internal and external audits should be done frequently as a way to prevent fraud. By testing various transactions, it can be easily determined whether good internal controls are in place and detect if fraudulent activity exists. Every company should have several trained individuals on staff to periodically review areas that are more susceptible to fraud. Monthly General Ledger account analysis and reconciliations can be a useful tool in detecting fraud. CFO and CEO review outlined in SOX can also help detect fraud since most people do not like to be held liable for someone else's acts.

Basically this policy will provide guidelines to ensure that each individual is responsible for acting ethically and working towards the greater good of the company. The literature contained in the policy should provide employees with the knowledge they need to prevent and detect fraud from occurring within the organization, and state what actions will be taken if an individual has committed a fraud. If a company had such a policy in effect, the above instances might not have happened or could have been detected earlier.

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# NANOTECHNOLOGY: THE NEXT FRONTIER

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## ABSTRACT

*We are on the verge of a new technical frontier, and this frontier is called nanotechnology. As its name implies, nanotechnology is the science of developing materials at the atomic and molecular level. This new technology promises to revolutionize the Information Technology (IT) industry. It will change computer architecture, offering powerful new products, the likes of which we have never seen. Good things come in small packages and in the case of nanotechnology; small is an understatement. The construction of components that can be measured in nanometers, or billionths of a meter will soon make it possible to build components so small you need a microscope to see them. According to NASA Ames Research Center, nanotechnology is enabling a scientific and technical revolution based upon the ability to systematically organize and manipulate matter at the atomic scale.*

*Towards the end of this decade, nanoparticles will have worked their way into a universe of products worth $292 billion (BusinessWeek Online, February 2005). The Presidents 2007 budget provides $1.2 billion for the National Nanotechnology Initiative (NNI). This investment will support nanotechnology research in medical equipment manufacturing, energy and environmental technologies (Office of Science and Technology Policy Executive Office of the President, February 2006).*

*This paper will explore nanotechnology and its technical, financial and social implications and offer some conclusions and recommendations for future research.*

**Keywords:** Nanotechnology Definition, Nanotechnology Implications, Nanotechnology Research, Nanotechnology Products, Nanomedicine, Nanoparticles, Nanoelectronics.

## 1. INTRODUCTION

Imagine a machine so small that it is barely visible with the human eye, or a tiny memory chip that is able to store terabytes of data on a device no bigger than the head of a pin. This may sound like fiction. But in a world where truth is stranger than fiction, the previously impossible has now become possible as a result of nanotechnology. In 1958, a physicist named Richard Feynman predicted such capabilities. Feynman advocated that “the principles of physics do not speak against the possibility of maneuvering things atom by atom.” (Keiper, 2003). The concepts introduced by Feynman in 1958 laid the foundation for innovations now commonly referred to as nanotechnology.

### 1.1 WHAT IS NANOTECHNOLOGY?

Nanotechnology is the science of building devices, such as electronic circuits from atoms and molecules. According to Eric Drexler, nanotechnology is based on the manipulation of individual atoms and molecules to build structures to complex, atomic specifications (Drexler, 1986). These are structures that will be measured in billionths of a meter. The U.S. National Science Foundation defines nanotechnology as: “research and technology development at atomic, molecular or macromolecular levels.” (Phoenix and Treder, 2003).

The ability to incorporate powerful capabilities into miniature machinery has the potential to lead to groundbreaking innovation. Dissection and manipulation of the properties of materials and systems at the nanoscale implies that nanotechnology eventually could impact the production of virtually every object known to man.

According to BC Crandall, “nanotechnology invites our species to grasp the world at an unprecedented level of granularity. This new molecular manipulation suggests that worlds of previously unimaginable material abundance are within our reach. For good or for ill, we stand at the threshold of a molecular dawn. How we conceive and create the instruments of nanotechnology will determine the quality and character of our lives in the next century and beyond" (Crandall, 1996).

### 1.1 THE HISTORY

The term "nanotechnology" was introduced in 1986 as a result of research from an undergraduate student named Eric Drexler at the Massachusetts Institute of Technology (M.I.T.) Drexler's premise was that the biological "machinery" is already responsible for life on Earth. The same principles could also be applied to the building of man-made products on-demand. Molecule-sized machines, modeled after those found in nature, could also be used to manufacture machines. Since we know that enzymes and ribosomes and other molecular "machines" exist and function, the premise should hold true that man-made molecular machines can also exist and function (Drexler, 1986).

Nanotechnology research has generated both interest and controversy. Nonetheless, many are jumping on the nanotechnology bandwagon and terms such as nanobusiness, nanomedicine, nanoparticles, nanomachines, nanotubes and nanosystems are becoming part of the vernacular of many technologists. Scientists and engineers are beginning to manipulate atoms and molecules with great precision. Word of the promise of nanotechnology is spreading rapidly. This recent interest in all things "nano" will undoubtedly increase the research and subsequent implementation of new nanotechnologies.

## 2. TECHNICAL IMPLICATIONS

Nanotechnology is expected to become the transformational technology of the 21st century. (Rejeski, 2005). Indications point to nanotechnology becoming an important, all-encompassing technology that will affect all sectors of the global economy (NOVA, 2003). According to the NanoBusiness Alliance, data storage will be a primary focus for nanotechnology. Experts predict that within a few years, the largest databases in the world will contain over 100 terabytes of data (UC Berkeley, 2003). The data explosion associated with storing and manipulating data has created a need for new methods of data management. The ability to store large volumes of data that are generated daily will be one of the most important uses of nanotechnology.

Nanotechnology has the potential to restructure the technologies currently used for manufacturing, medicine, defense, energy production, environmental management, transportation, communication, computation, and education (Roco, Williams and Alivisatos, 2000). The NanoBusiness Alliance also predicts that nanotechnology will enable dramatic enhancements in military and homeland security capabilities. Leveraging this new technology promises to produce new technologies for protective armors and sensors, as well as a variety of computing technologies such as quantum computing and encryption (Murdock, 2006).

The electronics industry is leading the way in the commercialization of nanotechnology, according to another report from the NanoBusiness Alliance. Nanoelectronic development activities focus on five key electronics industry sectors, including semiconductors, displays, hard disk storage, optoelectronics/sensors and micro/nano-electromechanical systems. Over the next 15 to 20 years, there will be an integration of nanoelectronics with biology and medicine, which will result in the development of a wide range of new markets. The market for nanoelectronics was an estimated $1,827 million in 2005 and is forecasted to reach $4219 million by 2010.

About 230 consumer products currently have nanotech-based components. These products include cosmetics and sunscreens paint, wrinkle-resistant clothing, and sports equipment. Another 600 products are being used in electronics production, drug delivery technologies, and instrumentation for research, according to Barbara Karn of the Environmental Protection Agency
While nanotechnology could impact everything from automobiles and computers to medicines, research is also underway to gather data on early stages of nanotech-based food and agricultural

science research. The global marketplace for nanotech-based goods and services, already a multi-billion dollar industry, is expected to grow significantly to more than $1 trillion annually and employ two million people by 2015, according to the National Science Foundation (Ritter, 2006).

The entertainment industry will also experience the impact of nanotechnology. An all-purpose nanotech entertainment system could "arrive on the scene around the year 2020," And many experts predict that nanotechnology will start to dramatically change our lives in the next 10 to 20 years (Keiper, 2003).

## 3. FINANCIAL IMPLICATIONS

Federal funding for nanotechnology research began under President Clinton with the National Nanotechnology Initiative (NNI). The Bush Administration has recognized the importance of this research and approved a 2007 budget which provides $1.2 billion to continue nanotechnology research and development. It is estimated that in 2004 there were $13 billion worth of products in the global marketplace incorporating nanotechnology; $8.5 billion of which lies in automotive and aerospace applications (Lux Research, 2004).

Businesses around the world are spending heavily on mainstream nanotechnology, pouring more than $3 billion into nanotechnology in 2003, according to one estimate. A recent survey showed that "13 of the top 30 Dow component companies discuss nanotechnology on their websites." (Keiper, 2003).

The Nanotechnology Consumer Products Inventory, indicates that there are approximately 125 nanotechnology-based health and fitness products on the market, including everything from hockey sticks and sporting goods to cosmetics and face creams. There are also approximately 30 electronic and computer products commercially available (Woodrow Wilson International Center for Scholars, 2006).

To put the magnitude of this technology in the proper perspective, consider the fact that economists have estimated that prior technical innovation, such as transistors and integrated circuits, accounted for half of the economic growth over the past fifty years. Similarly, nanotechnology is likely to be the primary catalyst for astounding economic growth for the next fifty years.

### 3.1 FUTURE PROJECTIONS

There is growing interest from venture capital firms in nanotech-related companies and some of the world's largest companies, including IBM, Motorola, Hewlett Packard, Lucent, Hitachi, Mitsubishi, NEC, Corning, Dow Chemical, and 3M have launched significant nanotech initiatives through their own venture capital funds or as a direct result of their own R&D (Murdock, 2005)

Lux Research has predicted that through 2009, commercial breakthroughs will unlock markets for nanotechnology innovations, with revenues rising to $292 billion. Electronics and IT applications will dominate as microprocessors and memory chips built using new nanoscale processes come to market. From 2010 onwards, nanotechnology will become commonplace in manufactured goods, with revenues rising to $2.6 trillion by 2014 (Lux Research, 2004).

Nanotechnology is not just a tremendous economic driver, its implications for homeland security, defense, cleaning the environment, and developing renewable, sustainable energy sources should make its development a key strategic as well as economic goal for the U.S. (Murdock, 2005).

## 4. SOCIAL IMPLICATIONS

Not since the microchip was introduced in 1970 has there been a technology which promises to have such far reaching social implications as nanotechnology. The opportunity to think differently and to do things differently with nanotechnology has enormous potential to change society. Current research and development investments of nearly $9 billion per year are underway. It is anticipated that this research will lead to new medical treatments; more efficient energy production, storage and transmission; environmental improvements and more efficient building materials that are smaller, yet stronger (Woodrow Wilson International Center for Scholars, 2006). One of the most profound impacts of nanotechnology will be in the field of medicine.

**4.1 NANOMEDICINE**

"Nanomedicine is the preservation and improvement of human health using molecular tools and molecular knowledge of the human body." (Freitas, 2003). Nanomedicine will employ molecular machine systems to address medical problems, and will use molecular knowledge to maintain and improve human health at the molecular scale. Nanomedicine will have extraordinary implications for the medical profession, for previously unavailable treatments and cures, for the diagnosis of life-threatening medical conditions, and ultimately for the improvement and extension of natural human biological structure and function, thereby increasing human longevity itself.

Research has suggested that nanomedicine, will be able to improve the human body from the inside out, with a precision and delicacy far greater than that of the finest surgical instruments available today (Phoenix and Treder, 2003).

James Baker, a physician from the University of Michigan has conducted some fascinating research on multipurpose nanoparticles These nanoparticles are predicted to cause a nanotechnology-based medical revolution, having the potential to transfigure the diagnosis and treatment of not only cancer but virtually any disease. Baker has already begun work on a modular system in which doctors might be able to create personalized combinations of nanomedicines. Such a system is at least 10 years away from routine use, but Baker's basic design could be approved for use in patients in as little as five years. That kind of rapid progress is a huge part of what excites doctors and researchers about nanotechnology's medical potential. "It will completely revolutionize large branches of medicine" (Bullis, 2006).

The use of molecular knowledge to maintain and improve human health at the molecular scale, and the introduction of nanomedicine will have previously inconceivable implications for the medical profession. Nano-enabled pharmaceuticals and medical devices will emerge from lengthy human trials and life as we know it will never be the same.

**4.2 PUBLIC SKEPTICISM**

As profound as the impact of nanotechnology will be on society, ironically a study funded by NSF and conducted by researchers in 2004 found that 80 to 85 % of the American public had heard "little or nothing" about nanotechnology. However, in that same study, only 22% of the participants feared that nanotechnology's risks would exceed its benefits. The biggest challenge is that the American public has "no or low" trust in government. The fear is that financially motivated agencies will not actually manage the risks associated with nanotechnology if it impedes future profitability and financial solvency.

Even with the potential for revolutionary medical treatments, some environmental organizations have expressed fears about the potential ecological and health consequences of nanotechnology and have called for increased research into the safety of nanoparticles. (Phoenix, 2005)

Of further concern is the fact that laboratory studies have shown that airborne nanoscale materials depositing in the respiratory tract can cause an inflammatory response when inhaled. The small size of engineered nanomaterials also makes it easier for their uptake into and between various cells, allowing for transport to sensitive target sites in the body, including bone marrow, spleen, heart, and brain. Various kinds of nanomaterials have the potential to interfere with antioxidant defenses (Oberdorster, 2005).

According to the National Institute for Occupational Safety and Health, nanotechnology is in its infancy and while extensive research is underway, it is recommended that future research priorities and areas or concern must be addressed. Such priorities include; toxicity, both human and environmental, exposure and material release/dispersion, epidemiology, measurement and characterization, control of exposure and emissions, safety hazards, risk management models, and product life cycle analysis (National Institute for Occupational Safety and Health, 2005).

"Nanotechnology's potential is vast and it's real. The opportunity for nanotechnology ranges from improving Olympic sports equipment to discovering better treatments for Alzheimer's disease," said Andrew Maynard, science advisor of the Project on Emerging Nanotechnologies. "But our ability to reap the long-term benefits of nanotechnology in areas from energy production to medicine will depend on how well industry and government manage the safety and performance of this first generation of products." (Woodrow Wilson International Center for Scholars, 2006).

## 5. CONCLUSIONS

Eric Drexler's theory and prediction of atomic and molecular manipulation has become a reality. Nanotechnology promises to change the way we work and play. It will touch every aspect of our lives. Cosmetic, health care and electronic products are already available, and this is just the tip of the iceberg.

The future looks bright for those who are informed and for those who believe. The first challenge is to increase public awareness of nanotechnology. The public needs to be aware of the potential of this new technology. At the same time, the public needs to be apprised of the potential risks. Since there are many who have been tainted and adversely influenced by their mistrust of government, this mistrust will create a challenge in overall public acceptance of these new technologies.

Fortunately, the general consensus is guarded optimism. While there is a hope that nanotechnology will provide solutions to many of our environmental and health concerns, there is also a fear that nanotechnology will introduce new problems, which have yet to be identified. These concerns can be allayed by clinical trials, environmental impact studies, and extensive laboratory research. The good news is that much of this research is already underway.

The economic climate of the 21$^{st}$ century will be vastly different as a result of nanotechnology, new job markets in manufacturing, medicine, and information technology will provide new revenue streams and new ways of living for open-minded businesses and for their consumers.

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# DELINEATING ORGANIZATIONAL CHANGE: THE CASE OF A MAJOR THEME PARK

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## ABSTRACT

*At this time of unprecedented pace and magnitude of change, it is imperative to fully understand organizational change processes to ensure the effective and efficient implementation of organizational change. Many organizational change efforts fail as a result of flawed management of change. Consequently, it has become critical for companies to understand how to better manage and cope with change. This paper presents the findings of a case study that explores how a major theme park successfully managed change thereby contributes to the efforts to ameliorating the understanding of organizational change.*

***Keywords:*** *Organizational change; Organizational development; models; management.*

## 1. INTRODUCTION

In today's volatile marketplace, organizational change has become a way of life. However, how to facilitate effective change in the functioning of organizations is perhaps the key question for managers (Matheny, 1998). Organizations are under tremendous pressure to pursue organizational change in order to survive in an environment of increasing change and turbulence (Weber & Weber, 2001). Nicholas (1982), stated, "no one change technique or class of techniques works well in all situations" (p.540). As a consequence, it has become critical for companies to understand how to better manage and cope with change (Szamosi & Duxbury, 2002). Insider accounts of change projects are important in gaining an understanding of what factors shape organizational change efforts (Jacobs et al. 2006). Interpretation schemas and mental models structure the way in which organizational members perceive reality and, consequently, proceed to action. To analyze, predict and influence the success of organizational change processes it is necessary to explicate these subjective theories (Argyris & Schon, 1978; Senge, 1990; Weick & Quinn, 1999).

According to Jacobs et al. (2006), the key to success and failure in change projects may lie in many seemingly meaningless acts and events that occur throughout the change process. In order to gain a better understanding of the factors leading to success in change projects, the purpose of this paper is to examine insider accounts of a successful change initiative accomplished by a major theme park in the United States. The theme park industry has undergone dramatic change over the past two decades. With a saturated clientele, theme parks are faced with new and competitive operating environments and as a consequence strived both to increase operating efficiencies and develop new income streams through various structural and strategic change initiatives. Within this context, this study takes the form of a case study into one long established theme park. The process of change and the management of the change process within the organization will be discussed and used as the organizational context within which various factors corresponding to the change initiative will be explored. From the data, a set of strategies will be devised to help others change successfully, as Whitehead (2001) suggested, "Tracking progress helps success breed success" (p.187).

## 2. LITERATURE REVIEW

Change has been defined in a variety of ways in the literature. Typically, change is designated as a process of moving an organization from its current state to a more desirable state (Ragsdell, 2000), propelled by the pressures and demands from internal or external environment, or a combination of both (Smith, 2005). Change is approached in different facets: it could be either radical or incremental (Beugelsdijk, Slangen, & Herpen, 2002), planned (deliberate) or unplanned (impulsive) (Johnson, 2004; Smith, 2005). Each situation is unique and, therefore, entails distinctive change approaches as "Turbulent times demand different responses in varied circumstances" (Dunphy and Stace, 1993, p.905).

There are a number of theoretical perspectives from which managers and consultants currently draw their knowledge about the process of change in organizations (Siegal et al., 1996). Greiner (1967) noted that change theories extends from unilateral to shared methods. According to Waldersee and Griffiths (2004), unilateral change methods tend to be planned (Beer & Nohria, 2000) or deliberate (Mintzberg & Waters, 1985), which is top down, procedural, focused on economic value and follow formal authority lines that does not seek prior support of the workforce. On the other hand, shared methods tend to be participative (Beer & Nohria, 2000) or emergent (Mintzberg & Waters, 1985) that gravitate towards participative, consultative approaches targeting the values, attitudes and skills of organizational members to build employee support for the change (Waldersee & Griffiths, 2004). However, Beer and Nohria (2000) believe that both planned and emergent models of change have their flaws. Therefore, they recommend a change process that adopts a consolidated strategy taking useful components from both.

While several strategies have been adopted to effectively manage change, few studies have explored in-depth the process of introducing and implementing organizational change (McWilliam & Ward-Griffin, 2006). In fact, Researchers recommended investigation in service-oriented and not-for-profit companies (Spreitzer & Quinn, 1996). This research thereby embarks on a case study to deeply explore one organization's experiences with change for the purpose of uncovering how they achieved success.

## 3. METHODOLOGY

### 3.1 The Research Site

The research was undertaken at a leading theme park based in Southern California that recently went through a major change in the form of merger and acquisition. Merger and acquisition triggers dramatic enactment of organizational change (Cartwright and Cooper, 1995; Howard and Geist, 1995). Like any other change initiatives, many merger and acquisition efforts have fallen short of achieving the anticipated outcome, as they fail to develop the explicit understanding of the strategic issues pertaining to change (Schuler and Jackson, 2001; Papadakis, 1995). The study, therefore, was conducted in this site to capture how the organization successfully initiated change.

### 3.2 Research Method

This empirical study represents an exploratory, non-experimental, descriptive research design using case study methodology. In designing the research, a case study approach was chosen because, as Yin (1994) argued, this type of approach is preferred when "how," "why" or exploratory "what" questions are being asked. Coinciding with the conception of Churchill (1991) the exploratory research was adopted to clarifying or prioritizing concepts rather than actually testing issues for generalized ability. In this case, the focus was to explore how the company approached change and what factors assisted to manage change successfully.

### 3.3 Data Collection

The primary case study data were collected through the on site face-to-face interviews. The investigators also collected secondary data in the form of notes from the observations and informal discussions during the meetings. In addition, the interviewees supplied documents to support their clarifications. Three participants were formally interviewed, including the Director of Finance - Operations, Entertainment & Technical Services, the Senior Vice President of Technical Services and Fixed Assts, and the Controller. The interviewees held leadership positions and were involved in leading change. In line with the perception that the leaders play a significant role in accomplishing an organizational change effectively (Higgs & Rowland, 2005; Kotter, 1990), this study adopts the approach of exploring the factors behind a successful change by obtaining information directly from the leaders. A snowball sampling was used for selecting the participants, which started with identifying a respondent who met the criteria for the study, who then recommended the other two participants (Trochim, 2005). Respondents were informed of the purposes of the interview and guaranteed confidentiality in written form. After they had expressed their voluntary co-operation, the interviews were held ranging in duration from 45 minutes to an hour. A set of semi structured open-ended questions were used to guide interview discussions. However, spontaneity was encouraged by allowing respondents to discuss any issues they considered important to the research.

3.4 Data Analysis

A qualitative content analysis (Flick, 2005) was conducted to analyze the collected data. The recorded interviews were transcribed and the relevant information was put into categories. In developing a categorization scheme, a data driven 'posteriori' approach in which categorization or themes were constructed on the basis of the textual materials (Sinkovics, Penz, & Ghauri, 2005). Further, secondary data were used to compare the findings and expand the understanding of the themes emerged.

3.5 Accuracy

In order to facilitate the systematic analysis of case study data, interviews were transcribed and used jointly with audio tapes to improve reliability and validity (Merton, Fiske, & Kendal, 1990). In line with the recommendation by Milne and Adler (1999), the study attempted to establish reliability through member checking (Creswell, 2002), data triangulation and investigator triangulation (Easterby-Smith, Thorpe, & Lowe, 1991), and inter-rater agreement. According to Light et al. (1990), "when you examine the consistency of ratings of the same stimuli by different judges or raters, you estimate inter-rater agreement" (p.166). Moreover, personal bias and investigator bias was avoided by keeping the focus on the interview questions during the data collection and on the transcripts during the data analysis stage.

## 4. STUDY FINDINGS AND DISCUSSION

The study noted that the change process had impacted about two hundred and fifty professionals at the theme park. Through the analysis, twenty-one major topics or meaningful units emerged, which were then clustered into five major categories or strategies. First, change process and strategy initiates at the top. The analysis indicated that the top leadership recognized the need for change and initiated it in order to guide the process correctly. One interviewee responded, "The first step was to essentially try to talk to my subordinates about just conceptually what the needs of the cultural shift will be. Actually the step before that was for me to try to understand what it meant to work for this company and what I believe to work for this company for next 5 to 10 years."

Second, a diagnosis precedes the change. The study revealed that the change requirements must be diagnosed thoroughly in order to establish a target or an end state. One interviewee noted, "assembling the cross functional teams having the right people, knowing what we needed to have, so we designed the thing right the first time. Developing the metrics with those folks as well as the finance that was a huge area have we not done it correctly, we could have buried ourselves."

Third, change is carried out in accordance with the strategies. The study exhibited that the change process rollout and implementation must be thoroughly explored so that the organization can apply the change based on the need identified. According to a respondent, "We have gone through a real restructuring. Its no more I'm an electrician, it's now I'm part of the entertainment group. Before is craft specific where now it's more tasks or team specific. Now we can compare the numbers with this year against the last year. Now we have standards of measurement. The guys in the field never saw an org chart. Now they can."

Fourth, the consequences of the change need to be captured to evaluate the impact of the change. It was implied that the change process results and accomplishments must be known and the company has the proper infrastructure to capture the consequence of the change to examine its impact and acceptance. One interviewee responded, "Another issue that was very significant for us in moving to a data warehouse operational system is the fact that our business is seasonal. So we get about 65% of our revenues between Memorial Day and Labor Day. Our ability to react to trends, positive or negative in a timely manner, its huge for us, I can't over estimate how important that is."

Fifth, captured outcome is used to contemplate future directions. The study found that that the lessons learned from the change process must be disseminated across the organization so that the company can effectively evaluate the change process and provide feedback for future enhancements. One respondent commented, "I learned from a cultural perspective…how people who formally stick to what they believe in, because it is safe and it is comfortable. As finance person, especially in our world you are constantly tasked to bring in new initiative, new ways of doing things to the table. Really understand on how to influence behavior was the biggest thing I learned. The second thing was getting the right level of engagement, (with different levels within different departments) had we not had their involvement we would not have captured all of the required information and all of the right metrics."

The findings indicate that the organizational change at the theme park took place to maximize its economic performance and as well as to develop organizational capabilities. While a top down approach to change was apparent, the leaders took a participative approach and communicated the vision of change. The focus for change was organization's design, culture and information flow. The motivating factor was to drive the organization towards a prosperous future for a common gain, not financial incentive to achieve the short tem objectives. The findings validate the perception of Bamford and Forrester (2004) who postulated that there is no "one best way" to manage change. Essentially, this complements the findings of Burnes (2004) that planned and emergent changes are not mutually exclusive and are capable of being used in combination. Beer and Nohria (2000) also indicated that the combination of these two methods might be future strategies for successful change.

## 5. LIMITATIONS AND CONCLUSION

The study was conducted in a single organization with limited number of respondents primarily to explore the strategies that went into successful organizational change. Therefore, the findings should not be generalized. However, this approach could be undertaken to explore successful change strategies in various organizations. Repeated application of the approach in varied organizations could eventually validate the findings and induce a generalizable change strategy to emerge. Despite its limitations, the study makes a contribution to unraveling some of the mysteries of complex organizational change, and of its role in organizational learning. The availability of knowledge about successful change initiatives could help organizations to plan and implement change effectively. Moreover, the study will add to the scholarly community that is increasingly curious about how organizations are adapting in this turbulent global environment by making successful changes.

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# IMPROVING AUDITING EFFICIENCY USING MOBILE INFORMATION TECHNOLOGIES WITH ELECTRONIC DATA PROCESSING SYSTEMS

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## ABSTRACT

*With the rapid advances of the Internet, increasing dependence upon electronic data processing systems in modern accounting firms raises serious concerns for auditing practitioners. The demand for an electronic system that uses modern information technologies to address specific auditing concerns is more crucial than ever. Due to high information throughput time, auditing by sampling is used for manual verification. The system proposed here provides a systematic audit process that detects potential fraud at an early stage. Auditors can plug in an audit module to periodically or irregularly monitor targeted transactions. This enables real-time generation of exception reports while audit trails still exist and should free up auditors to concentrate on irregularities and fraud. This paper introduces a new electronic auditing concept that provides the following advantages: easy system deployment, flexible auditing modules, high data transfer security, time-sensitivity, and high auditing efficiency.*

***Keywords**: Continuous Auditing; Mobile Agent; Electronic Data Processing Systems*

## 1. INTRODUCTION

Improper accounting and auditing behaviors happened at Enron, WorldCom, Tyco, and others, exposing serious integrity issues and authentic difficulty in attesting and assuring financial information. Preventing accounting fraud proactively is the best way to preserve a company's financial stability (Gary et al., 2006). While traditional auditing processes applying statistical sampling algorithms to examine audit traits in a periodic fashion, any intended malicious accounting behaviors can be found along the cracks of system deficiency. Demand for a better system that uses modern information technologies to address long plagued auditing concerns is higher than ever. Several computer-assisted auditing tools (CAAT) have been proposed (ASB, 2002, 2003), but none of the systems fully execute all the complex demands imposed by real-world auditing practices. Designing a "better" automatic accounting auditing system faces the challenge of capturing malicious practices as well as the challenge of creating "right" strategies for adopting available emerging technologies. Even though emerging technologies can be promising from a research viewpoint, real-world integration and system-wide heterogeneity issues can easily overwhelm the initial design goal with burdens of complicity and cost (Shaikh, 2005).

Although most companies implement electronic data processing (EDP) systems or similar electronic data interchange (EDI) systems to streamline their electronic auditing systems, system implementation failure is a norm (Liang et al., 2001). Therefore, prior to any physical system implementation, constructing an effective auditing process framework can be a critical path for future success. With rapid Internet and security technologies advances, we propose here an easily-adopted continuous auditing framework that can increase operational efficiency and lower implementation costs while simultaneously providing greater customer service with more accurate business information. Such a framework treats technologies as objects that are continuously evolving as long as the adopting cost is low and system maturity becomes high. Here we use the mobile agent as an example to construct our system framework.

## 2. THE NATURE OF CONVENTIONAL AND CONTINUOUS AUDITING

A conventional auditing process can be divided into stages with individual goals to achieve. The stages include formulating audit planning, accessing the internal control system, performing substantive tests, completing audits, and populating audit reports. Such auditing behavior is performed in a discontinuous fashion that generally provides reports on a quarterly or annual basis.

The introduction of an electronic continuous auditing strategy can be a possibility to significantly reduce accounting fraud. A few distinct barriers for implementing such systems are gigantic internal data compilation from heterogeneous environments and engagement of external auditing strategies and algorithms. While integrating internal and external systems poses a challenge, the high volume of data transactions over the Internet and exposure of companies' internal data can also contribute possible security threats (Harkness and Green, 2004). When combining conventional auditing processes with information technology concepts, auditing functions, data flow, and validation methods can be visualized as modules and relationships with distinct processes.

## 3. CONCEPTUAL FRAMEWORK

The auditing process itself is a tedious and resource-intensive task that requires not only manpower but also knowledge. With increased database implementation, electronic context sharing, and the improvement of Internet technology, the quality of conventional audit work can be significantly enhanced by scrutinizing more or all company financial data through the concept of a continuous auditing process. Continuous auditing implies the possibility of uninterrupted data feed from the auditee side and instantaneous audit requests from the auditor side. Constructing a near real-time electronic auditing framework is treated as a significant contribution for increasing audit effectiveness and efficiency. However, to construct a closely coupled system that requires prolonged system integration can be an impractical approach. Here a conceptual framework was proposed based on the technology derived from mobile agent (MA) application (Object Management Group, 1997; Picco, 2001; FIPA, 1998). Selecting MA as a system communicator merely reflects the use of the best available technology with proven concepts (Tripathi et al, 2001).

The framework emulates auditing processes in a presumed auditee-auditor-customer system that involves a customized auditing process and near real-time information posting for the designated parties. Dispatching MA among systems is a new mechanism for carrying customized requests through secured Internet conduits and coming back with the specified information. The main reason for selecting MA technology is its platform-free, light-weight deployment characteristics. A light-weight MA provides faster data transactions than conventional application-specific processing. Shorter database management system (DBMS) transaction time with highly customized data requests and either pre-defined or ad hoc data access (Bose and Sugumaran, 1999) through a secured Internet connection eliminates tremendous resource consumption, which leads directly to cost reduction and higher auditing efficiency.

Prior to attempting physical system development, three major identities—auditee, auditor, and customer—and their relationships need to be defined. The auditee possesses the raw financial data in either local hard disks and/or databases that allow limited data access from the outside world. The auditor performs audit work through pre-defined or ad hoc auditing MAs to the auditee's data resource, while the customer is defined as the public with interests in the auditee's financial reports. Their relationship is graphically defined in Figure 1. As shown in Figure 1, the external auditor uses a Web-based system to initialize the auditing work. The initial task is carried out by the MA and then sent to the auditee's Web and database servers. The dispatched MA at the auditee side executes the task based on the pre-defined mission. Data required from the auditor is returned to the designated auditor. Interested clients or the public can access the auditee's financial reports in a timely fashion with certificates from the auditor by the dispatched MA. A complete electronic auditing system needs to consider EDP systems heterogeneity, data transfer security, existing human and technical resources consumption, data integrity and quality, and data sharing among auditors and interested parties. System heterogeneity, existing among organizations, tends to be a huge task. Completely transforming scattered legacy data system (papers and folders) into an electronically organized database system generally means a significant financial and resource investment. Therefore, a prioritized data migration strategy should be adopted along the path of implementing a fully functional continuous auditing system.

The major focus for this paper is not to demonstrate the migration of such a system, but to identify the flexibility and strength for the proposed system framework. While an MA is comprised of the code and state information needed to carry out some computation, it is allowed to move, or hop, among agent platforms where designated tasks are executed. Most companies reserve the right to accept external MAs that move within a corporation's database and internal system due to its security concerns.

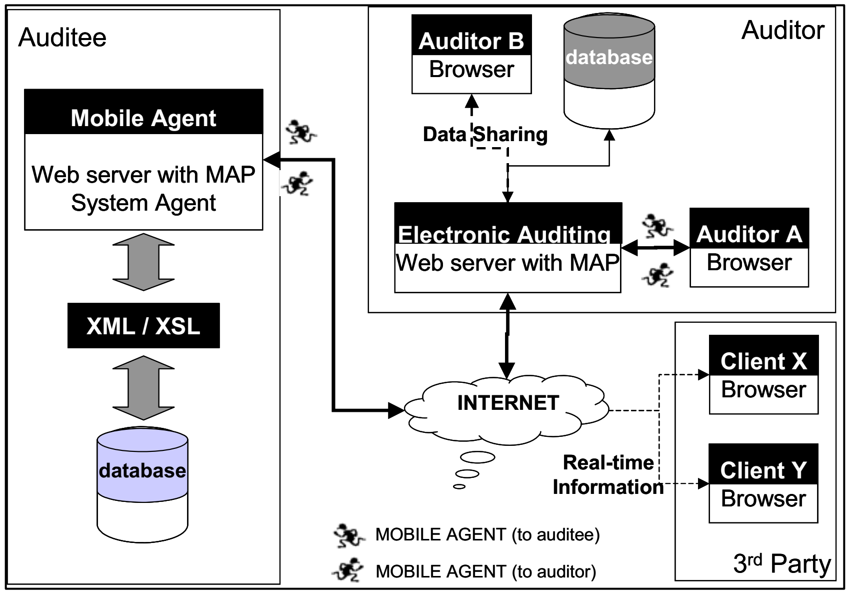


**Figure 1**

Several privacy issues surrounding the MA-based framework need to be clarified. As described by Fuggetta et al. (1998), a simple MA-to-MA platform is selected to explain the security issue. Security threats raised by MA can be classified into masquerading, denial of service, and unauthorized access types. Those threats can be found from four general threat categories: agent to agent platform attack, an agent platform to agent attack, an agent to agent attack, and other entities to agent attack, as discussed by Jansen and Karygiannis (1999). Several conventional techniques can be implemented to protect the agent platform, such as isolation processes mechanisms, access control mechanisms to computational resources, cryptographic methods, and security-relevant events auditing mechanisms. Some newer concepts for fighting such security issues are software-based fault isolation, safe code interpretation, and signed code, to name few. A detailed discussion of those countermeasure technologies can be found in Wahbe et al., 1993; Gray, 1996; Tardo and Valente, 1996; Karnik, 1998; and Ousterhout, 1998. Although MAs can pose threats for ill-designed systems, its flexibility and mobility advantages still provide us more incentives to adopt them as a viable solution.

A tracking signal method can be used to enhance continual auditing procedures proposed here. This controlling device has been used in business forecasting to monitor the performance of a forecasting model. Auditors can set a reasonable control limit to see whether actions are required to undertake auditing process when several consecutive outliers are found beyond the control limit. This tracking signal method provides an excellent forward warning for auditors of impending auditing problems.

## 4. EXPECTED ADVANTAGES

Auditing processing is a time-consuming task for most accounting/auditing firms. Conventional manual auditing processes cannot keep up with the increasing loads of auditing data and highly complicated business practices brought about by changing phases of information technologies. The designed system, through a secured Internet channel, can provide an opportunity to bridge many heterogeneous systems using one common layer. This common layer defines the standard application interfaces as well as the standard data structures. Therefore, it becomes possible for auditors to download near real-time transaction records or accounts in a general ledger through standard interfaces from the auditee side. Since the MA system can be designed, implemented, and tested on the auditor's platform, the auditing process can be initialized by the auditor group and will eliminate costly interaction from auditee side.

Both the high turnover rate on auditing staffs and the difficulty of experience transfer have become burdens and a resource waste for accounting firms. An automatic system, equipped with an electronically documented database and knowledge accumulated auditing practice modules, can easily reduce firms' training costs and auditing downtime due to inexperienced auditing staffs. In the long term, auditing automation can lead to downsizing of auditing staffs while preserving high accuracy.

Auditing processing in accounting firms can be categorized into verification and compliance parts. Due to the large amount of information accumulated, auditing by statistical sampling algorithm is generally used for manual verification in conventional audit practices. The proposed continuous system provides a systematic audit function that detects potential fraud in its early stage through continuous data analysis. As discussed earlier, auditors can deploy MA with pre-defined or arbitrary auditing schemes that monitor and scrutinize transactions in a timely fashion. Such investigation schemes can be further understood as data mining technologies. Therefore, any irregular activities/transactions can be identified by the MA program and reported to auditors.

By implementing an MA system, data exchange interference between auditors and auditees can be greatly eliminated, while audit integrity and flexibility can be relatively increased. Confirmation processes can be automated through various secured Internet channels. The confirmation response would function as an application acknowledgment, except that the acknowledgment is sent to the auditors rather than to the trading partners. Nothing is flagged if no exceptions occurred during any specific audit routine. However, auditors can impose any professional judgment on the fly to dynamically modify the auditing process and return parameters that can perform further follow-up as necessary.

## 5. LONG-TERM IMPACTS

### 5.1 Well-Documented Paperless Audit Trails

By implementing a continuous auditing system, the conventional paper audit trail practice is transformed into time-stamped paperless audit trails that can be easily queried and reported for further validation purposes. Since the auditing processes are documented within the auditor's local database with the validated data trails from the auditee's real-time database, any doubtful practices can be further investigated through data mining technologies. Time-sensitive audit trails can be faithfully preserved with scenario-based snapshot data for capturing any possible exceptional transactions.

### 5.2 Effective Data Retrieval Capability

As most audited companies vary in accounting information systems, electronic auditing can be easily impeded by database heterogeneity and data retrieval difficulty. The designated middleware application can serves as a gateway for transforming data into a standard format that is ready to be accessed by external auditor's MAs.

### 5.3 Report Posting and Fraud Prevention

Once the system is in place, the information required by compiling management and auditor reports is ready to be accessed. While reporting processes from conventional auditing system are considered inflexible, the reports generated from the new system can be customized to meet management or auditor needs with minimum resource waste.

## 6. SUMMARY

A conceptual framework that helps auditors detect possible accounting fraud at the earliest possible stage in the auditing process is proposed. The major advantages of the system are to relieve auditors from routine and tedious auditing procedures and to increase auditing effectiveness and efficiency. Under the proposed system framework, auditors can access auditees' information without the hassle of dealing with different platforms. Data exchange interference between auditors and auditees can be eliminated, while audit integrity and flexibility can be significantly increased. Well-documented and retrievable paperless audit trails will be preserved. Auditing experience and knowledge can also be accumulated by the system. The proposed framework and all these advantages would not be feasible if security concerns were not properly addressed. Even though MAs can pose threats for ill-designed systems, their flexibility and mobility advantages still provide us more incentives to adopt them as a viable solution.

In the future studies, the platform-restrictive EDP will evolve to some form of Web-based auditing software. This is expected to reduce communication time; most of all, the restrictive nature of EDP can be vastly improved in a Web-based format. Furthermore, enterprise resource planning (ERP) is making in-roads to mainstream accounting information systems. Given the popularity of ERP, there is no doubt that auditing can be an integral part of financial/accounting modules in ERP. It may then be the right time to seriously consider auditing automation within ERP environments.

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# A QUALITY FUNCTION DEPLOYMENT MODEL FOR SUPPLIER QUALITY MANAGEMENT

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## ABSTRACT

*The current popularity of outsourcing has highlighted the importance of managing suppliers more effectively. Although the management of suppliers involves several different activities, including the selection of the suppliers, the evaluation of their performance, the maintenance of supplier relationship, and contract rewarding, there is no doubt that the selection of the proper supplier is the first and crucial step in sound supplier quality management. In the literature, numerous methods have been suggested to improve this decision making process. However, most of the recommended approaches involved developing of a list of promising candidates and then assessing their potential based on a set of evaluation criteria. Typically, these criteria include cost, quality, on time delivery, flexibility, good after-sales service, and the profile of the supplier such as their technical capability, financial status, and the number of years in service. During the evaluation process, each applied criterion has usually been treated independently from the rest. However, in reality, those selected criteria may relate to each other. For example, the quality of the delivered parts can be determined by the supplier's technical capability and experience. Using all three criteria as equal and independent factors may not provide the best results.*

*In this paper, a different approach is presented to improve the supplier selection. This alternative approach takes advantage of quality function deployment (QFD), a method frequently applied in product development. QFD can enhance the design team's chance of capturing the needs of the customer and factoring them in the design of their new product. The concept of QFD can be borrowed to solve supplier selection problem because of its ability to handle relationship between the purchasing requirements and the characteristics of suppliers. When applying QFD, all the supplier selection criteria will be separated into two groups: the performance of the suppliers in terms of cost, quality, delivery, and service; and the profile of the supplier such as the number of technical staff, the financial status, the market share, the number of years in business, and others. Using QFD, the relationship between the two groups can be identified and applied in evaluating and selecting potential supplier.*

***Keywords:*** *supplier selection, quality function deployment, supplier quality management;*

## 1. INTRODUCTION

The rapid advancement in information and communication technology has drastically shrunk the size of the business world. Distance will no longer hinder the interaction among business partners located in various parts of the world. This development has ushered us to the era of globalization, in which a company could sell its products to a faraway customer, on the one hand, but also compete with a faraway competitor, on the other hand. To survive in this competitive global marketplace, a company has to rethink its competitive strategy and build a strong supply chain that provides customers with quality products and services. It is understandable that many American companies have worked hard to meet or even to exceed their customers' expectations in terms of cost, quality, and service. However, without suppliers furnishing quality materials or component parts on time and with reasonable costs, a company will find it difficult, if not impossible, to reach their quality goals. The buyer-suppliers relationship has thus become crucial for a company to build a strong supply chain that will provide competitive advantages. The current popularity of outsourcing has further highlighted the importance of managing suppliers more effectively.

Since the 1980s, many companies have been practicing just-in-time (JIT) purchasing. Instead of having a large number of suppliers competing among themselves, JIT purchasing stresses on establishing long-term relationship with a few qualified ones. Because of the lower level of inventory, the success of JIT relies heavily on the capability of the suppliers to provide quality parts, delivered just in time for use.

Consequently, building an effective supply chain requires focusing on supplier quality management that involves several different activities, including the selection of suppliers, the evaluation of their performance, the maintenance of supplier relationship, and contract rewarding. Among those activities, the selection of the proper supplier is no doubt the first and most crucial step in sound supplier quality management. However, to select the best supplier for the job and then assess its performance requires a purchasing company to consider numerous decision criteria, such as the supplier's financial stability, design capability, number of years in business, pricing structure, quality, reliability, and service, to name just a few. In the literature, several supplier evaluation and selection procedures have been proposed to assist purchasing companies to objectively and systematically evaluate potential suppliers (AT&T 1994) (Verma and Pullman 1998); (Putrus 1992) (Vondermbse and Tracey 1999); (Tullous and Utecht 1994); (Vaidyanathan, Srivastava et al. 1999) (Weber, Current et al. 1991). The majority of these procedures employed rating systems that require the decision makers: 1) to determine a set of criteria that should be considered, 2) to assign a rating to each criterion that reflects its relative importance, 3) to evaluate subjectively each supplier based on each criterion, and 4) to calculate the weighted average score for each supplier. The supplier with the highest score will subsequently be selected. More recent research proposed other more sophisticated approaches such as principle component (Petroni and Brglia 2000) and analytic hierarchy process (Barbarosoglu and Yazgac 1997); (Putrus 1992); (Nydick and Hill 1992); (Mohanty and Deshmukh 1993).

In almost all of the above studies, each applied criterion was treated independently from the rest. The interactions among those decision criteria have rarely, if not never, been considered. In reality, those selected decision criteria may relate to each other. For example, the quality of the delivered parts can be determined by the supplier's technical capability and experience. Using all three criteria as equal and independent factors may not provide the best results. In this paper, a different approach is presented to improve the above selection process. This alternative approach takes advantage of quality function deployment (QFD), a method frequently applied in product development (Hauser and Clausing 1988). QFD uses a graphical approach to display the relationship between customer satisfaction and design characteristics. The graph developed using QFD is known as the house of quality. It can enhance the design team's chance of capturing the needs of the customer (also known as the voice of the customer) and factoring them in the new product that they are designing.

In stead of designing a winning product, however, supplier quality management is trying to select the best supplier for the job. In this situation, the "voice of the customer" becomes the needs of the buyer and the "design characteristics" becomes the profile of the supplier. In other words, when applying QFD, all the selection criteria can be separated into two groups: the predicted performance of the suppliers in terms of cost, quality, delivery, and service; and the profile of the supplier such as the number of technical staff, the financial status, the market share, the number of years in business, and others. Obviously, the performance of the supplier can be determined by the capability of the supplier, which can be reflected in their profile. Using QFD, this relationship can be identified and applied in evaluating and selecting potential supplier. Moreover, this functional relationship can be estimated by using fuzzy regression, which handles effectively data that contain subjective and vague information. This estimated functional relationship will be used to identify the target values of the optimal supplier characteristics. Lastly, the actual characteristics of a potential supplier can then be compared to target values. This comparison will provide a basis for ranking the candidate suppliers with respect to their capability of fulfilling the purchasing company's material needs.

## 2. THE SELECTION PROCEDURE

In this proposed research, attempt will be made to apply quality function deployment method to the selection of suppliers. Although the methodology is entirely different from previous methods, it still requires similar inputs such as the rating of the potential suppliers and the rating of the importance of selection criteria. In using this method, supplier selection team should be formed to provide necessary inputs for further analysis. Although this method could provide decision maker the ranking of the candidate suppliers, the quality of the results is determined by the quality of inputs gathered by the selection team.

The proposed new procedure will include the following steps:

1. Identify the purchasing requirements and the important characteristics of the supplier.
2. Develop a list of promising candidate suppliers.
3. Determine the weights indicating the relative importance of purchasing requirements.
4. Build the profile of each supplier that includes the characteristics identified in step 1.
5. Normalize the data of the supplier characteristics.
6. Identify the relationships between purchasing requirements and supplier characteristics.
7. Identify the relationships among the supplier characteristics.
8. Subjectively assess each supplier's potential in fulfilling the purchasing needs.
9. Estimate the parameters of the functional relationships between purchasing requirements and supplier characteristics.
10. Determine the target values of supplier characteristics.
11. Calculate the deviation of each candidate supplier from the target values computed in Step 10.
12. Rank the alternative suppliers according to the total deviations from the target values and select the supplier that has the minimum deviation.

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A sound supplier quality management system can facilitate the construction of a strong supply chain that is essential to a company's capability to compete favorably in the increasingly competitive global marketplace. The goal of this research is to develop an effective tool that could assist a company to select the best suppliers for their purchasing needs.

## 3. THE SUMMARY

Supplier selection is an important but difficult task for many companies that are eager to build a strong supply chain. Among the difficulties are the large number of selection factors to consider and the fact that some of these factors can be affected by other factors. In the literature, although many selection procedures have been suggested to make this process easier, none so far has provided an adequate treatment of the dependence among selection factors. This research, using quality function deployment, attempts to construct a powerful and yet simple selection procedure that could enhance the procedure of evaluating and selecting adequate suppliers.

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# INSTRUCTING ADULT LEARNERS ON A GLOBAL BASIS: CONSIDERATIONS TO IMPROVE PEDAGOGY

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## ABSTRACT

*The writer discusses the challenges and deficiencies that instructors or business trainers face when they engage in a traditional (defined as teacher centered) method of providing of education to adult learners regardless of country of origin and instructional format (in-person, on-line or video). Several key improvement suggestions are given including setting aside the cultural and instructional paradigms of the instructor's home country, understanding the diverse learning styles of participants and aligning new pedagogical methods to teaching adults in a global environment. The author also calls for additional research to determine if the traditional college level instructional approach needs radical compression to mesh with the needs of the 21$^{st}$ century.*


**Keywords:** International Teaching; Pedagogy; Adult Business Education; Adult Learning Theory

## 1. INTRODUCTION

The opportunity to teach adult learners in foreign countries is a thrilling, invigorating and challenging task. Instructing, communicating and connecting with people possessing a wide range of language skills, varied cultural values, learning styles and sometimes operating with less than optimal rest presents a professor/trainer with abundant challenges.

The writer has been afforded numerous opportunities to teach in the international business programs of a Midwestern University's business programs and consult for several global businesses. These experiences presented the author prospects to reinvent his pedagogy practiced over the past two decades teaching adult learners for a Midwestern University's undergraduate and graduate business degree completion programs. The investigator recognizes that each faculty member's experience teaching at any level in America is unique. Nonetheless, when individuals share the same culture, they have similar values and similar understandings (White & Whitener 1998). However successful one may be teaching in one's home country, if one is afforded the opportunity to teach/train in a foreign environment, it is critical to understand the underpinnings of the culture of the students, regardless of the course being taught and if it is being presented face to face, on-line or via video link. While customs and the local education system may vary from country to country "underlying all these, however, is adequately understanding the local culture and business customs — knowing how to get things done and whom to trust (www.deloitte.com/dtt/article/0,1002, 2005).

## 2. LANGUAGE ENABLERS/BARRIERS

It is easy to assume that simply because someone speaks a common language (in this case English) that all verbal and written instructions — and more significantly the faculty member's intent — is completely understood. Confirming that one is understood during a class and if necessary in private is essential, and even more so when learners are not speaking their first language. "Even when one's foreign counterpart speaks English, he or she probably speaks and understands dictionary definitions not expressions (Marco, 1998). In the absence of knowing the language, it is important to have the competency to recognize idiomatic interpretations that are quite different from those found in the English dictionary (Phatak, 1983).

The global faculty member/trainer must also be mindful that all cultures have verbal and non-verbal communication systems, and each country's vocabulary reflects its primary value and communication (Knotts, 1989). Americans tend to be frank (relative to other cultures) and assume that others will reciprocate without a second thought. Americans prefer to fill moments of silence with conversation or inquiring of their counterpart and assume silence is a sign of the lack of comprehension or worse outright ignorance. The same is true with gestures, facial expressions and body motions which send different signals. Some foreign cultures tend not to maintain eye contact during discussions. Many Americans consider such behavior as lacking credibility or withholding information. Generally in our culture, a person who is reluctant to maintain eye contact arouses suspicion, but, in some other countries, an attempt to maintain eye contact may be perceived as a sign of aggression (Copeland, 1984). In Japan, South Korea, Taiwan and other Asian countries, maintaining eye contact is not an acceptable behavior. Asians rarely say "no", due to their reluctance to displease and to avoid the embarrassment of having to admit an inability (Phatak, 1983). On the other hand, in African and Middle Eastern cultures, maintaining eye contact is the norm. In some African countries, people are more willing to trust a person who will look them in the eye. In some cases, prolonged eye contact conveys hostility, but in others, it implies interest. Additionally, minimal eye contact can mean respect, but it could also mean fear (White & Whitener, 1998).

## 3. DEFINITION OF TIME

Americans are clock watchers and consider time to be a valuable asset that should not be wasted, hence the oft used express "time is money." In contrast, Eastern cultures view time as unlimited and unending (Phatak, 1983). Most academicians want to get classes started on time and conduct them in a business like fashion. Again, the desire to maximize class time for imparting knowledge and respecting others' time leads to classes starting with expressions such as "O.K. let's get going" or "We have a lot to cover today, so unless anyone has a question, we'll begin with…" In other words, the business of a course is the subject matter as opposed to relationship building. In other countries, some in Latin America and Asia, taking time to learn about the individual is vital. Many cultures place a premium value on relationships. Europeans and Asians value long-term relationships over short-term gains, which is counter to how others view Americans. Over emphasis on speed gives the impression that the task at hand is more important than the people involved. Many cultures are slower to make decisions than other cultures (Solomon, 1998).

## 4. CULTURLAL IMPLICATIONS

American cultural symbols are prevalent throughout the world. Our franchised businesses (e.g. McDonalds, Burger King, Ben & Jerry's, Planet Hollywood) entertainment (movies, music, and video games) fashions and other commercial icons (Procter & Gamble, Microsoft and etc.) are ubiquitous. Additionally, the venues (malls), conveyances (Boeing passenger aircraft, Harley Davidson motorcycles) and terminology ("bottom line", "good to go", "and no problem" and etc.) also lull an American into believing that the entire world speaks American English and that the world shares a common, comprehensible set of shared values with us. That assertion, however, is the source of most cross-cultural conflict because if we truly believe others are like us we can expect them to react to situations like us (Storti, 2001).

Almost anyone who has traveled outside of the United States cannot resist believing in the illusion that everyone values everything American. Whether one eats at McDonalds, KFC or Pizza Hut, drinks Starbucks beverages (including in the Forbidden City in Beijing, China, the rough equivalent of the Vatican City in Italy), watches the National Basketball Association games or a version of "American Idol" in their room at an American hotel franchise or simply notes the now universal "dress style" (blue jeans, name brand athletic shoes or flip-flops and a branded shirt) one might think they are still in America. As a consequence, many Americans are lulled into the mind set of "they dress like us, eat our food, speak some of the same jargon as us: therefore they must think like us." More often than not, this apparent commonality can falsely lead an instructor down the path that they are teaching a group of Americans. However, body language, colloquial expressions, customs, business terminology and other assumptions can mean the opposite of what the American faculty member is attempting to communicate.

For example, two studies reveal how some basic American values are completely dissimilar from essential Chinese values. Francis Hsu, an anthropologist who split much of his life between living in China and America outlined nine American values: self interest, privacy, all forms of government are suspect, success in life depends on acceptance among his/her peers, religion is good, men and women are equal, all humans are equal, progress is good and being an American is synonymous with being progressive (Seelye, H.N., 1993). Michael Bond, a professor in the Department of Psychology at Chinese University of Hong Kong conducted a survey to determine basic Chinese values. His studied revealed that there were 40 key Chinese values. The top nine were filial piety – obedience to parents, working hard, tolerance, harmony, humbleness, loyalty to superiors, observation of rites, reciprocation of greetings & favors, kindness. Number 40 was wealth (Nueliep, 2000). Obviously a disparity exists between the highly individualistic American society and the collectivist Chinese culture. By logical extension, imagine the diversity in learning styles, language barriers and cultural norms exist in European, Middle Eastern, African, South American and Asian learners. However, based upon superficial appearances (especially if one views the skylines of Hong Kong, Shanghai, Seoul and Singapore) an American might conclude that the world is a homogenized version of New York, LA and Las Vegas. The main point from this discussion is to be mindful that mere appearances of similarity mask more profound cultural and value differences.

## 5. ADULT LEARNING LITERATURE REVIEW

One of the defining issues in adult education on a global basis is which teaching technique is most beneficial to use with adults. As noted above a faculty member who is accustomed to teaching “traditional, 18-22 year old students” may believe that young adults and more savvy adults (i.e. older people) learn alike. The pedagological model or teacher-focused system implies the professor is the decisive component in instruction. Many education systems around the world favor this approach...and it is seductive regardless of the means of instruction; after all the transmission of knowledge is the same regardless of audience. One can also assert that “traditional” undergraduate venues utilize the lecturer centered model as the most efficient due to the sheer numbers of students in a given course and the academy’s historic paradigm. However, when many small, liberal arts college were on the brink of enrollment and/or financial disaster in the early 1980s they turned to serve new, underserved markets such as adults who did not complete their college studies or wished to advance their educations but did not have time to enroll in traditional education formats. Not only did not-for-profit educational institutions pounce on this market but also for-profit businesses (the University of Phoenix, DeVry, Keller Graduate School and etc.) joined the outreach frenzy as well.

### 5.1 Knowles Andragogical Model

The andragogical approach is most frequently used when teaching adults. The characterization of the model is attributed to Malcolm Knowles (1980, ’84). Knowles asserts that adults differ from preadults in a number of key ways that affects their learning and thus how they approach learning. Knowles maintains that the traditional pedagogical model (teacher focused) is inappropriate for use with adults. According to Knowles adults tend to be:

- Self-directing.
- Have a rich reservoir of experience that serves as a learning resource.
- Affected by the need to know or learn something and are therefore <u>task or problem oriented centered</u> **rather than subject oriented.**
- Generally motivated to learn due to **internal** rather than **external** forces.

### 5.2 IMPLICATIONS OF KNOWLES ANDRAGOGICAL MODEL

“If adult learning differs from preadult learning, then it follows that adults should be taught differently” (Beder and Darkenwald, 1982; Feuer and Geber, 1988). Since first proposing his model, Knowles has modified his position. “What he once envisioned as unique characteristics of adult learners, he now sees as innate tendencies of all human beings, tendencies that emerge as people mature” (Feuer and Gerber, 1988). Further research has been conducted on Knowles’ Theory (Beder and Darkenwald 1982 & Gorham 1984-’85). The researchers arrived at these conclusions. When teaching adults:

-Teachers spend less time on discipline and giving directions
-Provide less emotional support
-Structure instructional activities less tightly

-Vary teaching techniques more
-Greater use of group discussion
-Adjustments in content due to student feedback
-Greater relationship of class material to student life experiences
-Teachers with more formal training in adult education tend to use student-centered approaches the least
-Differences among teachers are more pronounced than differences between adult and preadult classes.

In Table 1 below, Zemke (1984) articulated the vital differences between adult and youth learners.

**TABLE 1: DIFFERENCES BETWEEN ADULT AND YOUTH LEARNERS**

| ADULT LEARNERS | YOUTH LEARNERS |
|---|---|
| Problem-centered; seek educational solutions to where they are compared to where they want to be in life | Subject-oriented; seek to successfully complete each course, regardless of how course relates to their own goals |
| Results-oriented; have specific results in mind for education - will drop out if education does not lead to those results because their participation is usually voluntary | Future-oriented; youth education is often a mandatory or an expected activity in a youth's life and designed for the youth's future |
| Self-directed; typically not dependent on others for direction | Often depend on adults for direction |
| Often skeptical about new information; prefer to try it out before accepting it | Likely to accept new information without trying it out or seriously questioning it |
| Seek education that relates or applies directly to their perceived needs, that is timely and appropriate for their current lives | Seek education that prepares them for an often unclear future; accept postponed application of what is being learned |
| Accept responsibility for their own learning if learning is perceived as timely and appropriate | Depend on others to design their learning; reluctant to accept responsibility for their own learning |

Source: Ron and Susan Zemke (1984)

**5.3 How Adults Learn**

Since Knowles pioneering research, many others have embraced and refined the practice of instructing adults. As part of this process, one must delve deeply into the most fundamental question; how do humans learn? According to Conner:

> “Learning can be defined formally as the act, process, or experience of gaining knowledge or skills. In contrast, memory can define the capacity of storing, retrieving, and acting on that knowledge. Learning helps us move from novices to experts and allows us to gain new knowledge and abilities.
>
> Learning strengthens the brain by building new pathways and increasing connections that we can rely on when we want to learn more. Definitions that are more complex add words such as comprehension and mastery through experience or study.

Physiologically, learning is the formation of *cell assemblies* and *phase sequences*. Children learn by building these assemblies and sequences. Adults spend more time making new arrangements than forming new sequences. Our experience and background allow us to learn new concepts.

At the neurological level, any established knowledge (from experience and background) appears to be made up of exceedingly intricate arrangements of cell materials, electrical charges, and chemical elements. Learning requires energy; re-learning and un-learning requires even more. We must access higher brain functions to generate the much-needed energy and unbind the old.

Our discussion here assumes learning, from the most fundamental to complex, to be (1.) any increase in knowledge, (2.) memorizing information, (3.) acquiring knowledge for practical use, (4.) abstracting meaning from what we do, and (5.) a process that allows us to understand.

Remarkably, people can learn from the moment of birth. Learning can and should be a lifelong process. Learning shouldn't be defined by what happened early in life, only at school. We constantly make sense of our experiences and consistently search for meaning. In essence, we continue to learn.

Though humans like the familiar and are often uncomfortable with change, the brain searches for and responds to novelty. "Ah-ha!" you may think. "That's why I hated freshman English. No novelty!"

Rote learning frustrates us because the brain resists meaningless stimuli. When we invoke the brain's natural capacity to integrate information, however, we can assimilate boundless amounts.

Another "Ah-ha!"? This may explain why sometimes a tough class, one you never thought you would get through, was one of your all-time favorites.

Western society once believed adults didn't learn. Even today, if you ask a group why adults cannot learn, it may surprise you how many begin answering the question without challenging the premise. Unfortunately, many adults deny themselves what should be one of the most enriching parts of life because they assume they can't learn.

We can learn from everything the mind perceives (at any age). Our brains build and strengthen neural pathways no matter where we are, no matter what the subject or the context" (http://agelesslearner.com/intros/adultlearning.html).

## 6. COGNITIVE INSIGHTS

A university colleague of the author's, Creig Kronstedt also teaches adult learners in the United States and overseas. Kronstedt teaches very challenging courses including statistics, economics and quantitative analysis. His PhD in Cognitive Psychology has provided Kronstedt with several important insights into the physiology of adult learning. Based upon his teaching experiences, Kronstedt offers some evidence as to why adults learn quicker, retain more knowledge and succeed in accelerated education models compared to traditional preadult learners in typical college situations.

Kronstedt asserts that human learning is not a simple matter of the total time spent in a learning environment. Instead learning is a function of the way the learning experience is arranged, how the material is presented and how time is managed. Among the reasons traditional college classes were developed were to:

– maximize classroom usage
– allow students to take a variety of different courses simultaneously
– accommodate professors' schedules

However, why are typical college level courses 50 minutes in length? Is the class period merely a legacy of middle and high school scheduling paradigms or do most educators feel that 50 minutes is the maximum "attention span of the average student? Furthermore, class to class transition disrupts learning. Memory consolidation is the movement of short term memory to long term memory and it must occur before the introduction of new material if retention is to take place. Any new information that is added creates an "acid bath" whereby new information interferes with and "corrodes" previous learning.

In Kronstedt's "Orient Express" which documents his experience with Asian learners (in an accelerated learning format defined as four hours of class each night for 6 consecutive nights) students focus only on the material at hand so full development can occur. Kronstedt also maintains:

- Ideas can be discussed and clarified
- The "50 minute bell" does not rule learning
- Learners absorb "chunks" rather than snippets of information
- Students experience total immersion in the subject matter
- Learners return night after night with material reasonably fresh in their minds
- There is relatively little time to forget what students learned
- A brief review brings learners back to speed rapidly
- Conceptually, learners get the entire view of the material and see how it fits together before they can forget the individual components.

Learning research also shows that memory consolidation occurs most effectively when there is no intervening activity. Sleep is the least amount of activity one can have. There is also evidence that REM sleep (dreaming) is when individuals may sort, organize and consolidate experiences so they can be retained. Most adults enter REM sleep about every 90 minutes so evening classes may be the best time to learn (http://www.geocities.com/creigusa/orient.html "Orient Express").

**TABLE 2: LEARNING STYLES**

| LEARNING STYLE | CHARACTERISTICS | TEACHING STRATEGIES |
|---|---|---|
| VISUAL LEARNERS | - process new information best when it is visually illustrated or demonstrated | • graphics, illustrations<br>• images<br>• demonstrations |
| AUDITORY LEARNERS | - process new information best when it is spoken | • lectures<br>• discussions |
| KINESTHETIC LEARNERS | - process new information best when it can be touched or manipulated | • written assignments, taking notes<br>• examination of objects<br>• participation in activities |
| ENVIRONMENTAL LEARNERS | - process new information best when it is presented in surroundings that match learner preferences (room temperature, lighting, seating, etc.) | • distance learners can control their own learning environment to a larger extent than on-campus students! |

Source: Zemke, Ron and Susan (1984)

## 7. DIVERSE LEARNING STYLES

Regardless of where, when, delivery means or the culture in which one is teaching, a professor must be cognizant of the multiplicity of learning styles of his/her audience and devise a comprehensive instructional strategy. Listed below in Table 2 is a matrix developed by Ron and Sue Zemske to assist the faculty member.

### 7.1 DETERMINING LEARNING TYPES

One useful tool to assist the professor establish the range and type of learners in a given class is the Keirsey Temperament and Character tests (http://www.keirsey.com**)**. They resemble the Meyers-Briggs test. According to one institution, “these tests can be taken on line and scored immediately. The temperament and character types are explained…The scores can also be used by instructors at the beginning of courses to learn about students and better plan instructional strategies, emphases, and individualized responses” (http://honolulu.hawaii.edu). Once the diversity of learning styles are identified it is critical for the instructor/trainer to apply this knowledge to the classroom environment, regardless of delivery method.

## 8. CONCLSUION

Teaching adult learners regardless of location and delivery method is a challenge and great opportunity. It is vital that an instructor/trainer utilize fundamental adult learning principles to guide their teaching methodology to reach diverse learners with a variety of sophisticated learning needs. Despite the documentation of the differences in learning styles between youth and adult learners, evidence continues to show that instructors continue to neglect changing their teaching approaches. According to several studies one researcher found that:

1. "... Involving students in discussion fosters retention of information, application of knowledge to new situations, and development of higher-order thinking skills -- and discussions do this much better than lectures do. ...
2. ... Yet 70 to 90 percent of professors use the traditional lecture as their primary instructional strategy."
3. "In a study of 155 class sessions at four different institutions, questioning of students comprised 0.2 percent to 9.2 percent of class time."
4. "... in most courses, transmission of facts from teacher to students and discussion that requires only the recall of facts are the dominant class activities, regardless of discipline, the number of weeks into the semester, or size of institution (Gardiner, 1998).

Further research is needed in this field. The author proposes the following investigation.

1. A comparison study should be conducted contrasting groups of youth learners to a similar sized group of adult learners. Additionally there should be identical studies conducted contrasting youth and adult groups in the United States and a selected foreign country.
2. The course content, outcomes and other elements such as textbooks, assignments and etc. should be the same for each pair of learners being investigated.
3. A pre and post test should be administered to determine how much course knowledge was retained by each group.
4. The adult courses should be accelerated courses (defined as the class meeting on a weekly basis for not more than 5 consecutive weeks).
5. The investigation should also focus on determining the amount of knowledge retained during an accelerated compared to a traditional course.

A properly organized and structured test as described above could lay a factual foundation for the development and implementation of an entirely new educational paradigm. In an age where speed and innovation spell the difference between success and failure, why do the majority of higher education systems cling to an 18 week semester? Are adult learners somehow better equipped to learn faster simply due to chronological age than their younger counterparts? Presently, only anecdotal evidence is tossed about to argue the point; hardly a rigorous method.

The author is not convinced that adult learners, regardless of geographic location, have a learning edge compared to their traditional college aged counterparts. Clearly an exciting teaching and learning opportunity exists for the academy to advance its work during the 21st century.

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# DIFFERENCES IN SELF-EMPLOYMENT BY STATE

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## ABSTRACT

*Based on the 2000 U.S. Census data, there is a relatively large variation in the percentage self-employed of workers across states. These variations in self-employment can be partially explained by the differences in certain demographic characteristics such as the average age of workers, their average education level and average earnings from other employment opportunities.*

***Keywords:*** *Entrepreneurship, Self-employment, State demographics*

## 1. INTRODUCTION

Small businesses are an important element in the continuing economic prosperity of the United States. In 2000, the small business economic sector in the United States was the world's largest economy, trailing only the overall economy of the United States and the economy of Japan. (NFIB, 2000, p.33) According to the National Federation of Independent Business, entrepreneurs in the United States start between 3.5 million and 4.5 million businesses each year. (NFIB, 2000, p. 15) Small firms are a driving force in the U. S. economy. The 2000 U.S. Census shows that almost 10% of employees classified themselves as self-employed. And the entrepreneurial economy continues to grow.

The United States, however, is a collection of 50 different states (and the District of Columbia), each with different laws and regulations governing small business and different population characteristics. As determined from the 2000 U.S. Census data, there are striking differences in the percent of individuals who report themselves as being self-employed across states. For example, in the District of Columbia only 6.6% of the workforce is self-employed, while 18.6% of the workforce in Montana is self-employed. What causes a higher proportion of the citizens of Montana and a lower proportion of the citizens of Washington, D.C. to become self-employed? Although policy makers argue the benefits of "entrepreneurial friendly" laws to encourage self-employment, can the propensity to become self-employed be explained by the demographic differences of the citizens of each state?

## 2. RESEARCH METHODOLOGY

The 2000 U.S. Census 5% Public Use Microdata Sample was used as the data source for this study. Individuals less than 16 years of age, persons who were unemployed with no work experience in the previous five years, and persons who listed themselves as unpaid family workers were excluded from the study. Thus, the data set can be thought of as the workforce in each state and the District of Columbia.

### 2.1 Purpose of Study

The purpose of this study is to determine whether certain demographic characteristics of the working population in the state could serve to predict the percentage of workers who are self-employed.

### 2.2 Sample

The sample consists of 8,259,041 people of which about 10% were self-employed. The sample was well distributed across age groups with 38% of the sample less than 35 years of age, 45% were between 35 and 54 years of age, and 17% were 55 years or older. Almost one-half of the sample (46%) had a high school education or less; 31% had some college but no bachelor's degree, and 23% had a bachelor's degree or better. More than 85% of the sample earned less than $50,000 annually. Of the remaining 15% of the sample, 9% earned from $50,000 to $74,999 annually, and only 6% earned $75,000 or more. Remember that this sample does not reflect the overall population of the United States, but is a fairly accurate reflection of those who are employed.

Table 1 presents the percent of the workforce in each state and the District of Columbia that is self-employed. As can be seen in the table, the percent of workers who reported themselves to be self-employed ranges from a low of 6.60% in the District of Columbia, to a high of 18.60% in Montana, with a median of 9.88% in Arizona. Although 10 percentage points separate the state with the lowest percentage of self-employment from the state with the highest, interestingly 34 of the 51 states (or two-thirds of the states) have percentages that are within only two percentage points of the median. Only three (or 5.8%) states have self-employment percentages less than two percentage points lower than the median while 14 (or 27.4%) states have self-employment percentages more than two percentage points above the median. Thus, just a cursory analysis of Table 1 shows a wide disparity in the percentage of workers who are self-employed across the states.

**TABLE 1**
**PERCENTAGE OF WORKERS SELF-EMPLOYED BY STATE**

| State | % Self-employed | State | % Self-employed |
|---|---|---|---|
| District of Columbia | 6.60 | Texas | 10.08 |
| Nevada | 7.57 | Alaska | 10.12 |
| West Virginia | 7.74 | Hawaii | 10.22 |
| Ohio | 7.96 | Missouri | 10.44 |
| Indiana | 8.13 | Washington | 10.58 |
| Rhode Island | 8.19 | Wisconsin | 10.87 |
| South Carolina | 8.24 | California | 10.93 |
| Virginia | 8.26 | Florida | 10.95 |
| Delaware | 8.53 | Arkansas | 11.47 |
| Maryland | 8.55 | New Mexico | 11.48 |
| New Jersey | 8.57 | New Hampshire | 11.48 |
| Pennsylvania | 8.65 | Oklahoma | 11.92 |
| Illinois | 8.69 | Kansas | 11.94 |
| Alabama | 8.76 | Iowa | 12.29 |
| Mississippi | 8.96 | Colorado | 12.45 |
| Michigan | 8.99 | Minnesota | 12.48 |
| Massachusetts | 9.01 | Wyoming | 12.75 |
| Louisiana | 9.01 | Oregon | 12.78 |
| Georgia | 9.10 | Idaho | 13.48 |
| North Carolina | 9.27 | Maine | 13.76 |
| Kentucky | 9.44 | Vermont | 14.68 |
| New York | 9.46 | Nebraska | 15.23 |
| Tennessee | 9.49 | North Dakota | 17.87 |
| Connecticut | 9.66 | South Dakota | 17.87 |
| Utah | 9.73 | Montana | 18.60 |
| Arizona | 9.88 | | |

## 3. ANALYSIS

To determine the relationship between certain demographic characteristics of the state populations and the percentage of workers self-employed, the following regression analysis was conducted:

$$\text{Perself} = b_0 + b_1\text{Perpriv} + b_2\text{Perwhite} + b_3\text{Permales} + b_4\text{Meanage} + b_5\ \text{Meaneduc} + b_6\ \text{Meanearn}$$

where the variables are defined as follows:

Perself = percent of self-employed workers in each state
Perpriv = percent of workers employed by private firms in each state
Perwhite = percent of workers in each state who are white

Permales = percent of workers in each state who are male
Meanage = average age of the workers in each state
Meaneduc = average education level attained by the workers in each state
Meanearn = average earnings for private or government workers in each state

While other demographic variables may also prove interesting to study, the selection of these particular variables for this study is based on their availability in the 2000 census data. Presented below in Table 2 are the parameter estimates and associated t-statistics of these variables.

**TABLE 2**
**REGRESSION RESULTS**

| Variable | Estimate | t-Statistic |
|---|---|---|
| Intercept | -65.645 | -2.92** |
| Perpriv | -0.206 | -3.22** |
| Perwhite | 5.121 | 2.65* |
| Permales | 50.355 | 2.54* |
| Meanage | 0.958 | 4.08** |
| Meaneduc | 2.934 | 2.31* |
| Meanearn | -0.0003 | -2.94** |

$R^2$ = .78, F = 23.56
* Statistically significant at the 97% level.
** Statistically significant at the 99% level.

The regression results are quite interesting. First, the greater is the percentage of workers employed in private firms, the smaller is the percentage of self-employed workers. This seems to indicate that private and self-employment are substitutes. Other regression results—not reported here—showed an insignificant relationship between the percent self-employed and the percent employed by the government supporting that conclusion. Thus, workers seem to follow two paths, one going to work for a private firm or for themselves, and the other going to work for the government. One could also conclude therefore, that heavy government emphasis on employing one=s citizens in government jobs (such as is the policy in the District of Columbia) could discourage entrepreneurial efforts.

Second, as the percent of non-minority workers increases, so does the percentage of the self-employed workers. This may mean that non-minority workers are more motivated to start their own business, or perhaps think that they will have a better chance of succeeding in self-employment than minorities would.

Third, as the percent of male workers increases, so does the percentage of the self-employed. Males simply may be more willing to take risks than females are.

Fourth, as the average age of the workforce within the state increases, the percent of workers who are self-employed increases. This would seem to indicate that older workers are more willing to Atake a chance@ in becoming self-employed. Perhaps they have already accumulated some savings from previous employment so they have something to fall back on. Or perhaps their children have already moved out of the house. Or perhaps their spouses are earning sufficient incomes to give them a chance to get started. Although impossible to know from the aggregated data, any of those explanations would be consistent with the positive relationship between average age and percent self-employed.

Fifth, as the average education level increases, so does the percentage of self-employed workers. This would indicate that individuals who are better educated tend to be more likely to be self-employed. This would be especially true for professionals such as doctors, lawyers and CPAs.

Finally, as the average earnings of workers in the government or the private sector increase, the percent self-employed decreases. The interpretation of this result is an opportunity cost argument. The higher the average earnings are in the other employment areas in a state, the greater the opportunity cost is of forgoing that other employment and becoming self-employed.

## 3. CONCLUSIONS

Demographic variables are useful in explaining why the percent of workers self-employed varies so much across states. As a state=s population ages and its citizens become more educated, the percent of workers who pursue self-employment opportunities increases. On the other hand, private-employment and self-employment appear to be substitute paths for workers, and the greater the income available from either private or government employment, the lower will be the percent of workers choosing to become self-employed.

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# SOME ISSUES OF ETHICAL VALUES IN ECONOMIC BUSINESS

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**ABSTRACT**

*This study analyses the need and importance of business ethics and moral values in management practices. Business, like bioethics, is a specialized area in which an awareness of ethical issues and a systematic approach to solving them are particularly important. Like other areas of ethics, business ethics has to do with the establishment and maintenance of vital and significant relationships among human beings specifically, in this case, among employers, employees, business, consumers and society as a whole. Indeed, business is the economic pulse of a nation, striving to improve the society's standard of living. Business means the total enterprise of a country in manufacturing, industry finance and commerce. Therefore, in order to safeguard the interest of the consumers and the society at large it is imperative to ensure ethical practices in business. Finally, it is concluded that in the new era of globalization of various world economies we should look for an alternative philosophy and approach in business ethics and moral values to safeguard the interests of consumers society and government.*

**Keywords: Business, Ethics, Moral Values**

## 1. INTRODUCTION

**"Ethics"** comes from the Greek ethos, meaning character whereas "Morality" comes from the Latin moralis, meaning customs or manners. Ethics, then, seems to pertain to the individual character of a person or persons, whereas morality seems to point to the relationships among human beings. When we speak of people as moral or ethical, we usually mean that they are good people, and when we speak of them as immoral or unethical, we mean that they are bad people. When we refer to certain human actions as moral, ethical, immoral or unethical, we mean they are right or wrong. In a simple way morality or Ethics can be defined as: morality deals basically with humans and how they relate to other beings, both human and nonhuman. It deals with how humans treat other beings to promote mutual welfare, growth, creativity, and meaning in striving for what is good over what is bad and what is right over what is wrong.

Indeed, business is the economic pulse of a nation, striving to improve the society's standard of living. Business means the total enterprise of a country in manufacturing, industry finance and commerce. Therefore, in order to safeguard the interest of the consumers and the society at large it is imperative to ensure ethical practices in business. This study analyses the need and importance of business ethics and moral values in Management practice.

## 2. ETHICS IN ECONOMIC BUSINESS

Business, like bioethics, is a specialized area in which an awareness of ethical issues and a systematic approach to solving them are particularly important. Like other areas of ethics, business ethics has to do with the establishment and maintenance of vital and significant relationships among human beings specifically, in this case, among employers, employees, business, consumers and society as a whole.

As far as obligations in business are concerned, participants in business activities are obligated to be honest and tell the truth, be fair and just in dealing with others, be honest and trustworthy in executing and carrying out agreements and contracts, payoff debts including interest, create a safe atmosphere for employees to work in, give the efforts and perform the work for which wages are being paid and finally, be loyal to employers, employees and customers within reasonable and ethical limits. To make the business most honest and benefit to both the producer and consumers, ethical values play an important role. Some of these ethical issues are discussed below:

### 2.1 Competitive Approach and Government Control

The best approach for a local or national economy to take is that of laissez faire, free enterprise, and competition. The theory behind this approach is that existing economic problems will be solved if all participants in business are completely free to compete as aggressively as they can. If there is a demand for certain a goods then business which can convince consumers that they can supply those goods at the best quality and the lowest prices should be free to compete with other businesses. In this way, everyone who can survive will profit-successful businesses, government and consumers. But contrary to this, though the Laissez faire philosophy may sound good, proponents of another position state that it often puts power and affluence in the hands of a few aggressive people at the expense of the many. Furthermore, wealth is kept in the same hands, as families that own big businesses continue to pass them on to their children and grand children. In other words, what all of this adds upto, according to this view, is that good and bad are distributed unjustly in a laissez faire society, with the "haves" getting all of the good while the "have-nots" get all the bad.

The only ethical and fair way for business to be conducted, according to this view, is to put it in the hands of the government, which will then operate it for the good of all concerned. In this way, no one individual or group of individuals has control over power and affluence to the detriment of others. Everyone in such a system works for the good of all, and a just distribution of good and bad is made by a central governing body representing all of the people. Some of the goods are distributed equally, some according to merit, and some by need and ability. Thus, everyone will share atleast with some equality-both the bad and the good emanating from the society's business dealings.

## 2.2 Justice

In the economy, every business has an overriding responsibility to make the fullest possible use of its resources, both human and material, as has each individual. The management has the responsibility to provide security of employment with fair wages and equal opportunity for personal growth and advancement within the business, which is a requirement of justice and the means of securing efficient management. Collective bargaining and representation by trade unions is the worker's right. In the business it is also the responsibility of the producer to do justice with the consumers by setting up and maintaining high standards of quality and service and fair prices. These are best' achieved by the business itself or through the trade associations. When they fail, the state has to intervene. On the other hand, worker's social responsibilities or business include doing a good day's work for a good day's wages, co-operating in increasing productivity and submitting to the discipline. This is not met by mere offer of products at the lowest possible price. Adulteration of goods, poor quality, failure to give fair measures, lack of service and courtesy to the customer, misleading or dishonest advertising are instances of violation of the social responsibilities of business towards the consumer.

The main aim of an enterprise is to .earn profit in the business. Ethics has to do with the distribution of this profit among owners, managers, employees and shareholders. Distributive justice raises questions concerning the portions of the gross profit made in any business endeavor that should be distributed among all concerned (by means, for example of higher Wages, bonuses and fringe benefits to employees and managers; greater dividends to shareholders and greater profit to owners).

## 2.3 Truth Telling

Truth telling applies to business in a number of ways. These are telling the truth in agreeing to render and pay for services and products, not lying in employer-employee relations; not lying to shareholders about the status of the business; and telling the truth in advertising. Truth in advertising is a large area of concern in the business world because it involves consumers and, by extension, society as a whole. It is business's obligation to consumers not to lie to them and also not to mislead them through the omission of important facts. For example, car manufacturers may advertise that you only need to change oil every six thousand miles, but they neglect to tell that you will have greater need of repairs than if you had changed it every two thousand miles. Although this is not a direct lie, it does mislead consumers through the omission of important facts.

## 2.4 Honesty

Honesty applies to business in the various ways like, keeping agreements and contracts, whether oral or written; admitting errors that have been made in creating products, especially where safety is involved and correcting those errors wherever possible; giving an honest day's work for pay received, giving appropriate wages for work performed; setting honest prices which allow for a reasonable but not exorbitant profit; giving the best quality for the price that one can, especially when people's health and lives could be endangered; and finally, constantly inspecting business practices at all levels to ensure that dishonesty and corruption are both discovered and eliminated.

### 2.5 Advertising Ethics

A large and important part of any business is advertising. There is hardly any aspect of our society which does not use advertising to some degree. The government, charities and even races and religions advertise to try to get the public "to buy the product". The advertising policy of the business community is not generally based on any ethical principle, but mostly on commercial expediency. The quality of goods advertised quite often proves contrary to the claims made in the advertisements. Cases of unwarranted claims in this respect mostly relate to medicines and drugs, toilet and cosmetic articles, edible oils and ghee. Unethical practices in advertisements are rampant in some cinema business advertisements, which are obscene, demoralising and a danger to public morale. The ethical standards of business advertisement may be improved by the newspaper industry provided it is not influenced by the desire to please certain political parties or economic groups.

The question arises here what guidelines can be presented for establishing ethically proper advertising. First of all, no unsafe product or service should be advertised. Of course, products or services which purport to be safe but should not even be put on the market until they are made safe. Secondly business should not make claims about their products and services which are not true or which are exaggerated on only half true. Thirdly all claims and guarantees about a product's or service's nature, effects and uses should be completely true and should be supported by evidence. This evidence, furthermore, ought to be readily available to the public. Finally, no one who works in advertising or public relations should be required to make untrue claims about products or services.

### 2.6 Environment Ethics

One of the most compelling problems that has arisen in business ethics is the depleting of natural resources through careless overuse and the destruction of environment. Although people in business should not have to bear total responsibility for these problems, they must certainly accept a large share of it. In fact, presently these problems are so serious, businesses are truly blame-worthy if they fight against viable solutions and do not do what they can to alleviate problems which are either already present or which soon will be. Business, according to the environmentalists must take the major blame for environmental waste and destruction therefore it must use its profits to reverse the damage it has wrought. Therefore, it must now attempt to re-educate the public in any way possible, even if this means some loss of profit.

### 2.7 Wages Ethics

Regarding wages, the problems are manifold. The major questions are the principles of fixing wages in Indian industry and the applicability and adjustment of minimum wages in the Indian context of prevailing economic conditions with wide differences in various regions of the country. Social ethics of business suggest that wages should have some relation to needs. They should be such that a wage-earner can provide for himself and his family, the minimum necessities of life such as food, clothing and housing, reasonable medical care, education, and basic minimum insurance against old age, invalidity and unemployment.

### 2.8 Price Ethics

Rising prices create instability, racketeering, lack of confidence and helplessness. The consumers feel victimised. The general impression is that business is by and large responsible for the rising prices. High cost of labour, management and administrative establishment on the one hand and high cost of raw materials, transport and marketing on the other are generally put forward as reasons for rising prices. The fact remains that hoarding and cornering play an important role and artificial scarcity is deliberately created. Thus, it is a part of the ethical responsibilities of business to ensure that goods are available at fair, reasonable and relatively stable prices at the time when the consumer needs them, and to take wise steps in advance to minimise the fluctuations in prices due to scarcity in production and seasonal imbalance between supply and demand.

## 3. CONCLUSION

Keeping in view the above facts it is concluded that ethics deals with the character or moral values of human beings. It deals with how humans treat other beings to promote mutual welfare, growth, creativity and meaning in striving for what is good over what is bad and what is right over what is wrong. Like other areas of ethics, business ethics has to do with the establishment and maintenance of vital and significant relationship among human beings specifically, in this case, among employers, employees, consumers and society as a whole. Participants in business activity should ethically be honest and tell the truth, be fair and just in dealing with others, be honest and trustworthy in executing and carrying out agreements and contracts, payoff debts, including interest, maintaining the quality of the product with reasonable price for the consumers, create a safe atmosphere for employees to 'work in, give the efforts and perform the work for which wages are being paid and finally, be loyal to employers, employees and customers within reasonable and ethical limits.

No doubt, that economic activities and business are driven basically by profit motives, the smooth and successful working of the economic system requires that a code of ethical conduct be observed by all the participants in the economic game. In fact, the code of ethics and more morality serve as the central control system to hold the society together with stability and consistency. We should look for an alternative philosophy and approach to check the growing degradation of business ethics and moral values. The rich philosophical and spiritual heritage of India contains a precious wealth of ideas and models of behaviour which can help managers to serve their enterprise and the larger society more effectively by following the principles of selfless dedication to work, love, fearlessness, kindness to every being, non-voilence, emphasis on sharing and giving rather than collecting and hoarding, etc. by keeping in view these facts it may be safely concluded, we should look for an alternative philosophy and approach in business ethics and moral values to safeguard the interests of consumers, society and the Government.

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# BANKRUPTCY PREDICTION MODELS IN HEALTHCARE

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**ABSTRACT**

*Hospitals are continuously facing environmental turbulence, whether from competitive market pressures, reduced revenues through lower payer reimbursement rates, or governmental regulations (Langabeer, 2000). This turbulence has been well documented suppress gross revenues. Simultaneously, the immense size of many hospitals rival that of Fortune 1000 companies, but as an industry they are both labor and technology intensive, which has resulted in large expense infrastructures and negative profit margins. The result is an increased probability for bankruptcy among major hospitals. Most academic research however has not comprehensively integrated multiple discriminate analysis models to estimate near term bankruptcy. Using statistical techniques from the field of bankruptcy research, a four year study of hospitals was conducted, which is one of the first of its kind in healthcare. Findings suggest that nearly two-thirds of all hospital is in immediate danger of bankruptcy, and that significant financial debt restructuring and financial re-engineering is necessary to combat business failure.*

**Keywords:** *Bankruptcy, Financial distress, Healthcare Finance, Hospital Economics*

## 1. INTRODUCTION

Since the early 1980's when the US government, through its Medicare and Medicaid programs, began in earnest to attempt to reduce hospital costs and reimbursements, hospitals have been dealing with continual environmental turbulence. This turbulence has produced a variety of strategic responses. For instance, the term IDN or integrated delivery network was a business strategy to re-align hospitals, clinics, physicians, and other facilities to provide a "one stop shop" for healthcare, and to provide improved negotiating power by uniting multiple parties. Other strategies, such as spinning off hospitals to private for-profit entities, outsourcing certain business lines, and experimentation with different governance models for managing physician relationships have all been aimed at controlling the turbulence. Unfortunately, most of these have been failed attempts. For those hospitals that are profitable, most of this margin is comprised of non-operating revenue components like interest income, investment income, gift shops, cafeteria, and other ancillary components.

Without significant changes in financial or market structure, many of the 6,000 hospitals in existence today could be near extinction in the short term. The purpose of this research is to estimate the level of severity of financial distress in healthcare, and to reasonably predict the probability of bankruptcy.

## 2. LITERATURE REVIEW

There is a long history of studying and modeling bankruptcy in many industries (Laitinen et al, 2000). Researchers have long attempted to classify and predict business failures and bankruptcies (Altman, 1993, Morris, 1997). Several prediction models were developed beginning in the late 1960's and have been refined continually over the years. There are three distinct types of models in practice today: multiple discriminate statistical models, gambler's ruin-mathematical techniques, and artificial neural network models. These tools have been used by many industries, and by different types of stakeholders, including analysts, the stock market, government, credit rating agencies, and banks.

Finance and economics research in the healthcare industry has mostly centered on financial outcomes and metrics for profitability, liquidity, debt structure, and efficiency. Since there is no singular, most important financial metric for hospitals, these areas tend to be discrete analyses and are not comprehensively explored. Profit margins from operations and days of cash on hand are two of the most frequently used metrics to assess financial health for hospitals. While simple and useful, they have proven in other industries to be short-term outcomes, and insufficient to predict longer-term financial health. There has been almost no research on using bankruptcy models to predict short term bankruptcies in US hospitals using statistical or logit regression modeling. The most widely studied analytical models are those of Edward Altman, who developed a multiple discriminate analyses based on business failures initially in manufacturing sector.

Analyzing historical bankruptcies in hospitals is more difficult than in other industries. Since there has been little attempt to classify and predict business failure in hospitals, there is no precedent that has been established. In other industries, businesses are considered to have failed only when they enter formal bankruptcy proceedings, but typically with most teaching hospitals it doesn't reach this point. Being primarily non-profit, these organizations tend to avoid formal filings but nonetheless have experienced financial collapse and bankruptcy.

## 3. RESEARCH METHODS

This research used the well-documented Altman z-score model for service and retail firms to study bankruptcy in hospitals (Altman, 1993). This equation is shown below.

$$Z = 6.56X_1 + 3.26X_12 + 6.72X_3 + 1.05X_4$$

Where:

$X_1$ = Net Working Capital (Current Assets – Current Liabilities) / Total Assets.
$X_2$ = Retained Earnings / Total Assets
$X_3$ = Earnings before Income Taxes / Total Assets
$X_4$ = Book Value of Equity / Book Value of Debt

This Z-score model builds on the interrelationships of many different financial aspects. An index or score can be calculated using balance sheet and income statement data for each of the variables and ratios in the equation above. A z-score of less than a 1.1 indicates an organization where bankruptcy is highly probable. A score greater than 1.1 but less than 2.6 indicate a "zone of ignorance" which requires special care and focus on improving financial health. The last group, those greater than 2.6 indicates hospitals in good financial condition.

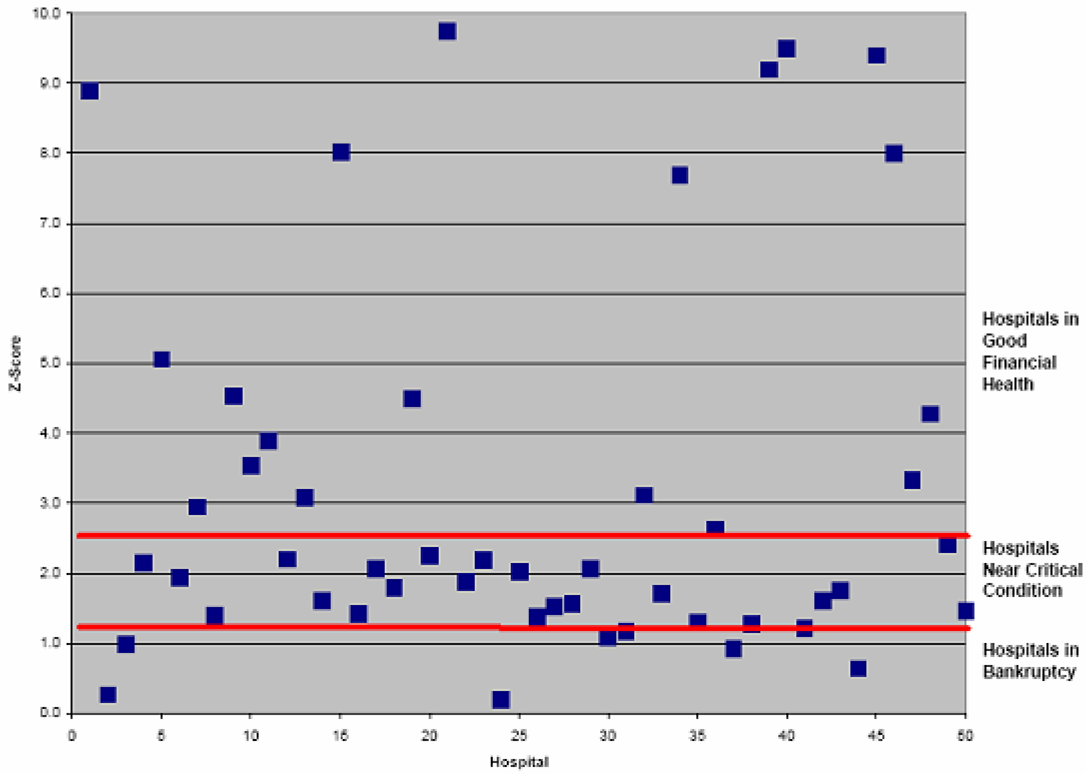
Financial data were collected through a variety of data sources over a four-year period on a large cross-sectional sample of hospitals. This sample was biased towards the largest most widely known hospitals in the US. Source data were obtained from Medicare cost reports, the Ingenix' Hospitalbenchmarks.com database, and the American Hospital Association.

## 4. ANALYSIS AND FINDINGS

The average Z-score decreased 12.5%, from 4.67 in 2002 to 4.08 in 2004, indicating that across these hospitals the probability of bankruptcy or financial distress has increased. More significant, in the most recent year data was available for this sample, 14 percent of the hospitals have a very likely probability of short-term bankruptcy or failure. Nearly fifty percent of the sample was in the cautionary zone. In total, 64 percent of the 2004 sample is in a crisis situation, despite the fact that this same group of hospitals had a mean operating margin of nearly $30 million, and only four had sustained losses from operations that year. Figure 1 shows a scatter diagram of hospitals in the various Z-score ranges for 2004.

So while operating margins seemingly improved over the last few years, overall Z-scores have worsened, suggesting again that operating margin does not necessarily indicate successfully the real financial condition of hospitals. Days of cash on hand from all sources averaged 92 days, which ordinarily appears fairly high if this were considered on its own.

FIGURE 1: Z-SCORE DIAGRAM PLOT BY Z-SCORE CATEGORY




Looking at this, the higher performing group had a Z-score nearly 4 times higher than that of the low-performing group. One of the key differences that stands out is that the total dollars of debt load per bed is nearly double in the lower performing group, while the average cash on hand is over 75 percent greater. This suggests that those hospitals closer to bankruptcy tend to hold on to cash longer, possibly as a defensive mechanism, and have significantly greater debt loads. Additionally, the higher performing group has nearly 13 times more net working capital than those in financial distress. This would indicate the importance of good working capital management and optimal financial leverage.

Overall analysis suggests that the majority of hospitals are operating very close to bankruptcy conditions, despite the fact that many of these actually posted strong positive profit margins. Margins are not always the best proxy for financial condition.

## 5. IMPLICATIONS FOR FUTURE RESEARCH

There are several implications from this research. First and foremost, more research needs to be done to establish if bankruptcy prediction models truly work in healthcare. While they have been used with great success in other industries, there is no conclusive support that they work in this industry. This is the first research of its kind in healthcare, and it is the author's hope that this will stimulate additional future research in this arena. Second, if they are to be applied, future research should explore if any of the variables in the Altman Z-score model needs to be changed to produce a better fit in the model. Since there are different versions of the model that currently have been fine-tuned to fit manufacturing versus service or retail, it is possible that adjustments of the model will have to be made to more accurate predict bankruptcy in hospitals. Third, a longitudinal study to follow up on the hospitals that are predicted to have near term bankruptcy will have to be conducted to see what percentage of those predicted actually reach the point of severe distress or bankruptcy, as the model predicts.

Additionally, hospital financial executives are lacking adequate research of this kind to drive improvements in their financial management practice. The principles of finance as they are applied to healthcare are not well understood in the turbulence of today's environment, and hospital finance managers are in dire need of models and frameworks to build better financial structures and plans. Integrating advanced research on bankruptcy with practical financial application in hospitals is essential to improving the level of understanding for both executives and academics.

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# EMPOWERMENT AND SERVICE QUALITY IN SERVICE INDUSTRY

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## ABSTRACT

*Empowerment creates an efficient, productive, satisfied and dedicated work force in service industry (Bowen & Lawler, 1995). Service operators are believed that empowering employees at all levels can increase service quality and staff effectiveness. It also creates a sense of belonging for the frontline employees and provides greater versatility to customers. Four main factors as predictors of the level of empowerment are identified. They are trust, training, information sharing, and leadership style. Theoretical implications, as well as practical implications for empowerment in service industry are discussed.*

***Keywords:*** *Empowerment; Job Satisfaction; Service Quality; Hotel Industry.*

## 1. INTRODUCTION

Employee empowerment is considered as one of the key components of providing better customer service in hospitality industry (Brymer, 1991; Fulford and Enz, 1995; Lashley, 1999; Potochny, 1998). Relatively little research has investigated the determinants of empowerment in service industry and its relationship with the level of service quality. The present study, therefore, performed a more detailed investigation of the basic elements of empowerment and attempted to set up an integrated model of empowerment toward service quality, with a view to filling some gaps in the research concerning this topic.

## 2. LITERATURE REVIEW

### 2.1 The Concept of Empowerment

The term "Empowerment" has been widespread since the 1980s. In the words of Conger and Kanungo (1988), empowerment is "a process of enhancing feelings of self-efficacy among organizational members through the identification of conditions that foster powerlessness and through their removal by both formal organizational practices and informal techniques of providing efficacy information" (p. 474).

Empowered employees are supposed to feel in greater control (Conger, 1989). Byham (1992) defines empowerment as "the pride and sense of accomplishment that come(s) from owning a job and feeling responsible for its outcome" (p. viii). Bennis and Nanus (1985) suggested that empowerment makes people feel significant, excited and challenged by their work, like their work really matters, and like they are part of a team. Formal system of empowerment is necessary so as to enable power and authority sharing. Meanwhile, it was commonly suggested that a linkage between empowerment and company's reward system is necessary in service-oriented industries (Bowen and Lawler, 1992; Berry, et al.,1994).

Employee empowerment has been investigated from two perspectives, they are "the management perspective – macro approach" and "the psychological perspective – micro approach" (Cyboran, 2005). Both perspectives focus on employee motivation: in general, management empowerment of employees addresses extrinsic motivation, while the latter addresses intrinsic motivation (Conger & Kanungo, 1988; Thomas & Velthouse, 1990). Therefore, they are not mutually exclusive in nature. Empowerment is a process as well.

### 2.2 Four Organizational Factors Affecting Empowerment

2.2.1 Organizational Trust. Organizational trust is considered as one of the most important and efficient control mechanism in an organization (Ouchi, 1981; Culbery and McDonough, 1985). As defined by Robinson (1996), trust is "One's expectations, assumptions, or beliefs about the likelihood that another's future actions will be beneficial, favourable, or at least not detrimental to one's interests" (p. 576).

Khan (1997) suggested that a trusting atmosphere is required for an organization to enhance empowerment. In an attempt to identify factors enabling organizational empowerment, Melhem (2004) found trusting relationship between employer and employee was strongly correlated with the level of empowerment. In the study of 517 bank employees in 14 commercial banks in Jordan, they concluded that trust and knowledge, had direct effects on the level of employee empowerment. In particular, flexibility fostered staff self-control than rigid management control, and facilitated initiative and creativity in an organization.

2.2.2 Training. In a study of 120 home care services providers, it was found that a high level of empowerment is the result of high level of professional competence of the staff members (Schmid, 2002). Training is important not just for employees to learn new skills for their jobs, but also to improve their self-confidence. Fracaro (2006) proposed that the provision of employee training is one of the essential steps for empowerment.

2.2.3 Knowledge Sharing. Knowledge sharing is important in implementing employee empowerment (Buhler, 1999). In the words of Blanchard, Carlos & Randolph (1996), “People without information cannot act responsibly” (p. 34). Empowered employees are entitled to make decisions; lack of information sharing will bring them in difficult circumstances, such as service failure, dealing with unsatisfied customers, etc. As noted by Bowen and Lawler (1995), effective information flow is critical for a situation where employees are deemed to make the best decision in such situation. Spreitzer (1995) proposed and tested a comprehensive model of intrapersonal empowerment in the workplace. His model specified that intrapersonal sense of empowerment was influenced by role ambiguity, access to information, access to resources, sociopolitical support and organizational culture. This can be viewed as an instance of social-structural antecedents. Using a sample of 324 American middle managers from different organizations in the USA, he found that role ambiguity, access to information and culture were positively related to the level of empowerment.

2.2.4 Supportive Leadership Styles. Cauldron (1995) argued that without the HR initiates in promoting empowerment environment makes the empowerment difficult. In other words, the more support the managers had the more effectively empowered they were. Gandz (1990) has noted that empowered employees required confident managers. Imagine, empowered employers might make mistakes where their managers need to forgive. Charismatic leaders understand the power of shared vision in empowerment (Thomas and Velthouse, 1990). Ozaralli (2003) hypothesized that transformational leadership would contribute to the prediction of subordinates’ self-reported empowerment. The empirical study of 152 subjects from eight private Turkish organizations in various industries was conducted. It was found that transformational behaviors of leaders had a moderate positive correlation with subordinates’ self-reported empowerment.

**2.3 Empowerment and Commitment to Service Quality**

Due to the interactive nature of service delivery, frontline employee is the most important element for the service delivery. Empowerment provides frontline employees with the responsibility and authority needed so as to act quickly without a long chain of command (Hart, et al., 1990; Lewis and Gabrielsen, 1998). Empowered employees can make decisions and suggestions for service improvement and solving the customers’ disputes. As suggested by Dover (1999), empowered employees learn the connection between their actions and customer value.

In an earlier study, several service failure scenarios were presented to 133 Australian subjects (Sparks et al., 1997). It was found that the empowerment of front-line staff was correlated with the levels of customer satisfaction and service quality judgments. Similarly, Hartline and Ferrell (1996) investigated the use of empowerment in the management of customer-contact service employees. They hypothesized that higher levels of empowerment would be correlated with higher levels of the manager’s commitment to service quality. Using a sample of 44 hotels from nine hotel chains in the USA, they found that the use of empowerment has both positive and negative consequences in the management of contact employees.

Bahakus et al. (2003) developed a service recovery performance model. Using a sample of 180 frontline bank employees in Turkey, they found that top management commitment to service quality was manifested by frontline employees’ appraisal of training, empowerment, and rewards.

## HYPOTHESIS AND CONCEPTUAL FRAMEWORK

This study investigates factors of empowerment, as well as the structural relationships between level of empowerment and service quality. Based on the findings of previous studies, the following relationships are hypothesized.

*H1a: Organizational trust is positively correlated with the levels of employee empowerment;*
*H1b: Employee training is positively correlated with the levels of employee empowerment;*
*H1c: Levels of intra-organizational knowledge sharing is positively correlated with the levels of employee empowerment;*
*H1d: Transformational leadership is positively correlated with the levels of employee empowerment;*
*H2: Levels of frontline empowerment is positively correlated with the levels of management commitment to service quality.*

The structural framework of the proposed model is depicted in Figure 1.

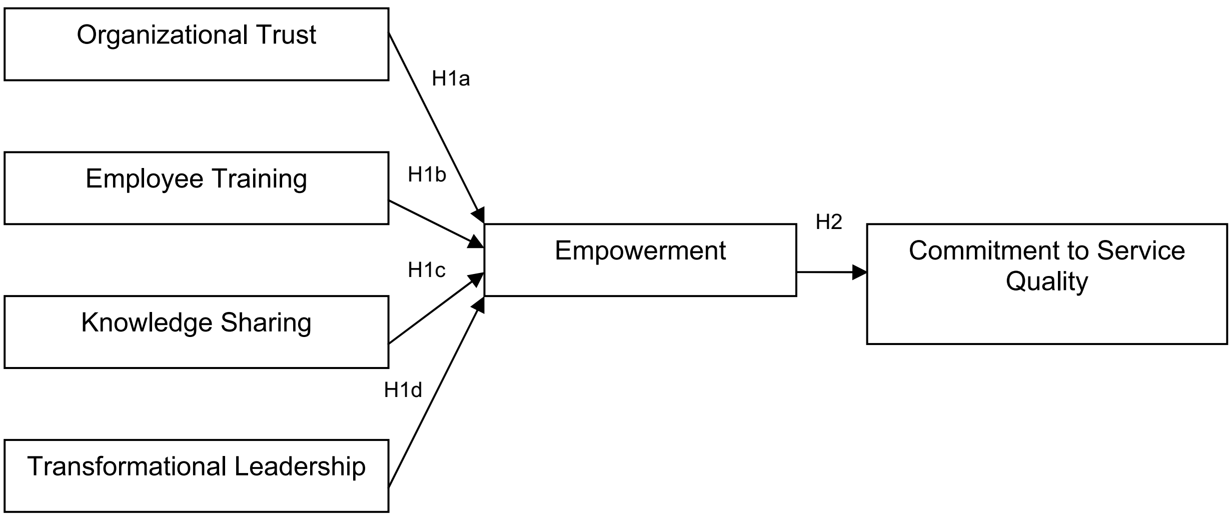


Figure 1: Proposed theoretical model of empowerment and commitment to service quality

## 3. DISCUSSION

Effective empowerment helps organizations to be more competitive and profitable. Empowerment means passing on authority and responsibility. In terms of theory development, previous research has focused on exploring the importance of empowerment. Frontline employees are the key person in the service operation. This study tends to concentrate on factors affecting employee empowerment in service industry and examine the relationship between empowerment and commitment to service quality simultaneously. As discussed, empowerment enables frontline staff to make decisions so as to satisfy their customers. This combination of perspectives provides new casual pathway between organizational practices and the delivery of service quality.

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# THE ECONOMIC EFFECT OF ASSOCIATION FOR MULTILATERAL INTERNATIONAL COOPERATION IN GEOSCIENCE FIELD, KOREA

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## ABSTRACT

*Science and Technology(S&T) is a source of knowledge in a knowledge-based economy and its importance is increasing more and more, which is regarded as the significant factor in economic growth. According to changing the characteristics of S&T and apperance of Techno-Globalism international S&T cooperation becomes an issue which is important, at a current time, in international relations as a serious agenda. There are various types of activities according to its objctives for international S&T cooperation, for example, participating in the activities of multilateral regional cooperation for S&T diplomacy in Korea. International S&T cooperation for sustainable development in geoscience field, Korea has carried out by taking part in CCOP(Coordinating Committee for Geoscience Programmes in East and Southeast Asia) since 1966. CCOP is an intergovernmental organization with the purpose of carrying out joint applied geoscience programs in East and Southeast Asia. The interests and needs of it in geoscience field have increased as rapidly as occurring earth disasters like global warming, tsunami and earthquake, and exhaustion of natural resources like petroleum and gas. And at the same time by the characteristics of geoscience field with global R&D scope it is necessary to develop an earth system which could enforce global R&D competence and it has excellent results in economic growth through in CCOP activities. Namely, the social rate of return on CCOP R&D activities(SRR) is 33.4%(on condition, 30.6%). This paper concerns about how much the economic effect of geoscience R&D investment is quantitatively through multilateral international S&T cooperation. We may conclude that we calculates the economic effect of international S&T cooperation with CCOP by SRR(on condition, 30.6% or 33.4%) and it is an enough motivation to invest in international S&T cooperation in geoscience field, Korea.*

***Keywords**: Economic effect, International cooperation, Science & Technology, CCOP.*

## 1. INTRODUCTION

In a knowledge-based economy Science and Technology(S&T) is a key source of generating knowledge, which activities, namely Research and Development(R&D), are regarded as contributing to growth in a national economy. A knowledge-based economy is growing based on an individual's innovative activities learned in each part of knowledge generating process; an input, an output and practical use part. Technological progress resulted from innovative thinking and performance increases productivity more for economic growth.

Productivity growth is a measure of the growth in the ratio of output to inputs(labor and capital). The sources of productivity growth can in broad terms be categorized three terms, growth in capital inputs, growth in labor inputs and a residual factor that can perhaps best be described as R&D activities which result in technological progress. Once labor input and capital input in productivity growth were traditionally considered as productivity growth determinant factors, the extent to which R&D activities can be contributed to economic growth can be accounted for by using Total Factor Productivity(TFP). When measuring the contribution figures of each factor, data should be treated carefully. Because it is possible to mix and not to divide each factor's contribution to economic growth independently.

R&D activities are conducted in various ways, particularly domestic and foreign R&D in regional scope of R&D cooperation. Foreign R&D is performed through cooperation between researchers in different countries or between countries in international agreements. There has been international geoscience joint R&D activities through CCOP of multilateral international cooperation in geoscience field.

In this paper we concern about the extent to the contribution of CCOP activities to economic growth through international relationship for multilateral international cooperation in geoscience field, Korea. We also calculate the social rate of return on CCOP R&D funding.

## 2. CHANGE IN INTERNATIONAL S&T COOPERATION

The characteristics of a knowledge-based economy can be distinguished each part of knowledge- input, output and practical use. First, knowledge-input part is focused on the quantity of inputs like R&D funding, and outputs of intellectual properties like papers and patents. It is important to invest for performance of R&D activities in this part. In a knowledge-output part it possible to spread the awareness of science and technology by education, to attain human resource, and to result in improving the level of science and technology. And it guarantees to have the potential of setting up a knowledge-generating foundation or infrastructure. In the third part for practical use in knowledge it treats technology-related issues like technology transfer, technology consultation, commercialization of innovative technologies and so on. In this part the functions of all parts are worked with mutually. The effort of establishing international relationship for R&D with foreign countries can be included in a knowledge-Input part.

At present, objectives for international S&T cooperation are changed in for each country's interests and for the needs of a worldwide economy. S&T is to be an important agenda between foreign countries as a method for benefits of national economies. S&T becomes of large-sized in the scope of from a region to the earth and in the scale of R&D funding. And the contents of R&D becomes more complicatedly and systematically. As well, as fulfilling the international agreement for prohibiting global warming the needs of international cooperation are increasing in a certain R&D field of geoscience. So international joint R&D is expected to lower and diversify the level of its risk itself economically and technologically with appropriate party to an entente.

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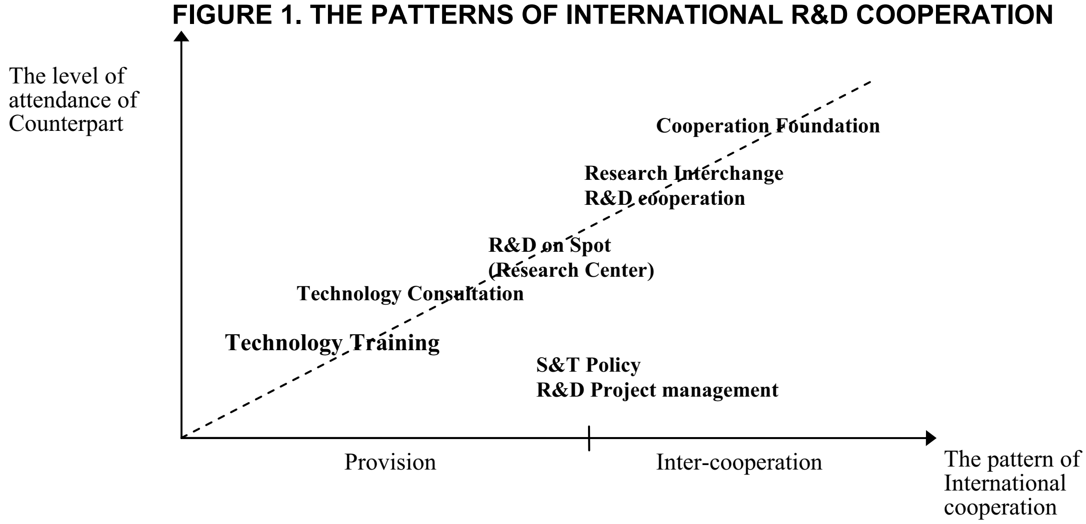
In the case of international R&D cooperation between countries of different economic level, it may start with a certain pattern of from interchange of human resource and education and training to joint opening of international conference and seminar, and dispatch of research groups to joint R&D and establishment of international cooperation foundation. The patterns of international R&D cooperation change in below.

**FIGURE 1. THE PATTERNS OF INTERNATIONAL R&D COOPERATION**




Source : Sung-Bum Hong and Sung-Chul Chung(1999).

## 3. THE ACTIVITIES OF CCOP

Since the 1980s multilateral agreements for international S&T cooperation in Korea have been arrived at actively. In the case of resources, related with in geoscience field, its agreements were concluded specially in the 1980s and 1990s. Yong Soo Kwon *et. al.*(2003) proposed that in the field of energy and mineral resources top 3 countries of actual counterparts as well as the most desirable were Japan, US and China. These countries were regarded as expecting to make an enough effort for the other party and being amicable for technology transfer.

Coordination Committee for Geoscience Programmes in East and Southeast Asia(CCOP) is an intergovernmental organization with the purpose of carrying out joint applied geoscience programs of sustainable development in East and Southeast Asia, founded in 1966. Korea has joined it since 1966 as a foundation member country. CCOP's activities were categorized into three technical sectors, geo-resources sector of dealing with minerals, energy and groundwater, geo-environment sector of dealing with coastal zone, geohazards and environmental geology, and finally geo-information sector of dealing with geodata and geoscience information management. The CCOP activities in each sector result in data exchange and sharing of institutional and administrative experience, regional data compilation and regional resource mapping, training and human resource development, standardization of resource classification and nomenclature, harmonization of regulatory environment and joint investment R&D promotion.

**TABLE 1. MULTILATERAL S&T AGGREMENTS STATUS IN KOREA**

| Field | -1960s | 1970s | 1980s | 1990s | 2000s | Total |
|---|---|---|---|---|---|---|
| Nuclear Energy | 3 | 4 | 5 | 5 | 1 | 18 |
| Environment | - | - | 2 | 13 | 3 | 18 |
| Resources | - | - | 5 | 6 | 1 | 12 |
| Etc | 2 | 9 | 13 | 16 | 6 | 46 |
| Total | 5 | 13 | 25 | 40 | 11 | 94 |

Source : Korea Ministry of Foreign Affairs and Trade Homepage(www.mofat.go.kr).

## 4. ESTIMATE OF ECONOMIC EFFECT OF INTERNATIONAL R&D COOPERATION

For estimating the economic effect of international cooperation activities, we have a conservative assumption. We, at first, have the contribution of R&D to economic growth. The Bank of Korea(2004) reported that TFP in Korea between 1991-2000 averaged 1.42% per annum, while total output growth(GDP growth) for this period was 6.26% per annum. Therefore, TFP represented almost 22.7% of total output growth during this period. And R&D also averaged 0.68% per annum and 10.9% of GDP growth during same period. So these figures, the contribution figures of R&D to GDP growth is used. Increase in GDP between 1991-2000 was 352,656.9 billion won and the approximate share of GDP increase due to R&D growth is 38,439.6 billion won.

352,656.9 billion won * 10.9% = 38,439.6 billion won

When we accept a reasonable estimate of the contribution of R&D to TFP growth, we still need to determine the different impacts associated with the characteristics of R&D, public and private R&D. OECD study(2001) represented the share of public(about 25%), private(about 25%) and foreign R&D(about 50%) to TFP growth(OECD, 2001). There are no references so represented reasonable elasticities of public and private R&D in Korea that we assume that we estimate the contribution of public R&D to R&D growth by the share of public and private R&D funding to all R&D funding. This suggests that public R&D can be expected to be the driver of around 22% of Korea R&D growth. So increase in GDP growth by public R&D was 8,456.7 billion won.

38,439.6 billion won *22% = 8,456.7 billion won

If CCOP funding for multilateral international cooperation with R&D were expected to generate similar returns to the average returns associated with all public R&D, we had increase in GDP growth due to CCOP R&D activities straightforward by CCOP funding. Total CCOP funding during same period, 1991-2000 was about 0.679 billion won and its share of all public R&D funding is 0.00328%. Increase in GDP growth due to CCOP R&D activities is 0.227 billion won.
8,456.7 billion won*0.00328% = 0.227 billion won

But when we consider the characteristics of CCOP R&D activities, basic, application and development research, we calculate increase in GDP growth due to CCOP activities again. Korea Science and

Engineering Foundation(2005) reported the economic effect of the activities of international cooperation programs and they considered the share of the contribution of their programs to all public R&D activities, 75% as its program is similar with CCOP activities. So we can use the figure, 75% for the contribution of CCOP R&D activities to economic growth. Increase in GDP growth due to CCOP R&D activities concerned about the characteristics of R&D is 0.208 billion won

8,456.7 billion won*75%*0.00328% = 0.208 billion won

We also estimate the economy-wide social rate of return on CCOP R&D activities. The social rate of return is defined as the increase in GDP as a percentage of the cost of the investment that lead to this increase(Allen Consulting Group, 2003). When the investment cost of CCOP funding was 0.663 billion won during same period, the social rate of returns on CCOP R&D activities are 33.4% or 30.6% on condition that it is considered the characteristics of CCOP R&D activities.

0.227 billion won(0.208 billion won) / 0.679 billion won = 33.4%(30.6%)

When comparing the social rate of return of ARC program(51.5%) in Australia and international cooperation program(31.2%) in Korea, the level of the social rate of return of CCOP R&D activities(33.4% or 30.5%) is not higher than others. Because it is different from the magnitude of the contribution of each country's TFP or R&D to economic growth. But there are enough opportunities to improve the contribution of R&D to economic growth in Korea and it results in the higher social rate of return on it.

## 5. CONCLUSION

Research and Development as a source of knowledge is a factor of leading to technological progress in a knowledge-based economy, which considers eventually resulting in economic growth. But as changing in the objectives and the characteristics of R&D, the needs and interests of international R&D cooperation are increased, particularly in geoscience field, Korea. So we concern about the economic effect of multilateral international R&D cooperation in this paper. We access the intangible activities and present the economic valuation of R&D.

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# MOTIVATING AND ENGAGING MARKETING STUDENTS: AN EXPLORATORY STUDY OF DAILY QUIZZES

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## ABSTRACT

*This paper presents a simple yet powerful tool for motivating student attendance and preparation in a marketing class. Unlike quantitative classes, students in marketing courses may slack off in their preparedness and assume they can catch up when exam time approaches. Ill prepared students cannot contribute to class discussions in a meaningful way. The payoff to having better prepared students is richer classroom discussions, higher quality case analysis, and better retention of the material by students. This exploratory study uses daily quizzes as a motivating tool to compel students to come to class prepared. The results indicate higher attendance and better quality case analysis by the students. Some of the difficulties encountered while using daily quizzes are discussed and suggestions are made to improve the efficacy of this tool.*


***Keywords****: Motivating Marketing Students; Daily Quizzes; Student Preparedness;*

## MOTIVATING AND ENGAGING STUDENTS: A Brief Review of the Literature

Keeping students engaged and motivated is an age old pedagogical concern that has been consistently linked to lower dropout rates and higher levels of student success (Harrington and Schibik, 2004). In fact, according to Veenman (1984), motivating students is the second most important concern for instructors. The first concern is classroom management.

A related issue is student preparedness. Students who read the assigned material on time can engage more effectively in the classroom discussion. When the majority of the class is well prepared, discussions and student interaction is enhanced and higher levels of learning can be achieved. In quantitative courses such as Business Statistics or Corporate Finance the students are more motivated to do assignments, usually in the form of homework problems, for fear of falling behind. The case is quite different for Marketing courses. Many lectures begin new topics that, while reinforcing general marketing concepts, do not build on the previous session's lecture. After the Principles of Marketing course, students' may be able to miss a lecture without feeling lost as they would in a quantitative course. Additionally, many Marketing students wait until just before an exam to read all the assigned material, a practice commonly known as "cramming." This cramming may allow students to perform well in the short run, but the long term retention of crammed material is questionable. By studying for an impending exam the student hopes to attain a decent grade, but at the expense of really absorbing the material and participating fully in the classroom. Vroom's (1964) expectancy theory has been used as a model to explain student motivation. If a student expects that his study habits will change the outcome (success in the course), and the outcome is attractive (valence of outcome) then this will provide the motivational force to change his behavior. If, however, the student expects that change will not affect outcome, then he will not change his behavior. The key, then, is to introduce a class structure and grading scheme that encourages this change.

Another related concern is absenteeism. Devadoss and Foltz (1996), not surprisingly, found that the learning outcome (course grade) was directly related to class attendance. At our university Juniors and Seniors do not have attendance requirements. While a "class participation" component may be built into the grading scheme, there is no direct mechanism for requiring upper level students to attend classes. Quantitative courses build on previous lectures to introduce more difficult concepts and problems, thereby motivating students to come to each class and stay current with the class readings and homework assignments. Marketing courses are more qualitative in nature, therefore student's often assume that missing a Marketing class will not adversely affect them. The challenge is to keep students engaged, motivated, prepared and present for each and every class session.

**A SIMPLE TOOL: Daily Quizzes**

In over 20 years of teaching I had never used daily quizzes or pop-quizzes to evaluate students. Although there are many professors who feel testing is a waste of time and does not accurately measure learning, studies show that students learn more, study harder, and are motivated when tested frequently (Kauchak & Eggen, 1993). Lowman (1984) found that tests helped learning by motivating students to study. Furthermore, frequent testing helps instructors identify students who need remedial or additional instruction (Burden & Byrd, 1994). My methods of student evaluation include case analysis, written assignments, term projects, and exams. I generally give 3 exams, each covering approximately 5 chapters of text material and 5 weeks of lectures. Occasionally, if I am covering more than 15 or 16 chapters or conceptually difficult material, I will break the material into 4 exams for the semester and perhaps drop the lowest grade but not the last exam.

I have never been satisfied with testing students after covering five or more chapters of material. I have always felt that the students study for the test, not for the knowledge. I can't change basic human nature, but I can change the rules of the game. So this past semester I decided to use a novel approach. I discussed my idea with colleagues and found only one using a pop quiz approach. I decided that I did not like the idea of unannounced quizzes, so I devised my own plan.

This new approach involved daily quizzes at the start of each class session. Immediately after the quiz I would review the questions and discuss any points that needed further clarification. Squires (1999) found that grading often does not tell students in what areas they did well nor does it allow students to build on their successes. By reviewing quizzes immediately after they are taken, students have feedback they can use proactively to improve their grades. McCormick (1994) found that immediate and frequent testing increased student's interest because they are better able to remember the details needed to answer correctly. Frequent testing also provides valuable feedback to the instructor (Kozma, Belle, and Williams, 1978). The results allow instructors to adjust their teaching pace, review difficulty concepts and/or provide more examples to illustrate the material better. Frequent quizzing with immediate results also provides valuable feedback to the students. They can adjust their study habits, ask more questions in class, take better notes, or participate more. The immediacy of the quiz results provides the impetus. Kolesnik (1978) found that students who were kept informed about their performance were more motivated and tried harder on subsequent tasks.

After the daily quiz was administered and reviewed, we would move on to a class discussion and case analysis relating to the previous day's lecture. This frequently included current events and discussion questions from the text. Once the discussion was completed to my satisfaction, I would begin a new lecture on the next topic. Class was dismissed after the material was covered and students were expected to read and prepare for the next session's quiz. This process continued for the entire semester. In addition, a written case was due weekly. These cases were longer than the typical case done in class and required an understanding of several lecture topics, not just the previous session.

The results of this new approach were immediately obvious. Class discussions were richer and more meaningful. In general, when students are not prepared for class their questions and comments are often shallow and extraneous to the class discussion. That did not happen during the trial semester of this exploratory study. I discussed this new approach with the students at the start of the semester and then again at the end. The feedback was generally positive. The students did not like having to study daily, but they conformed. They liked the immediate feedback of the daily quizzes. They always knew how well they were doing in the class and could adjust their studying habits accordingly. We covered fifteen chapters during the semester, which amounted to fifteen quizzes. At the onset I told the students that the five lowest quiz marks would be dropped. This sounded rather liberal, but since this was a new approach for me I was concerned with fairness. I was equally concerned with abuse of the dropping policy, students might use the five "drops" as an excuse to skip those chapters and class attendance. For the most part, that did not happen. The first few quizzes students did not do well and had to use most of those quizzes as their dropped grades. Once the students adjusted their study habits and got used to the quiz format, the quiz grades improved.

## THE STUDY AND RESULTS:

This technique was tried out on an upper level Marketing course in Retailing. The textbook, lecture notes, cases, and professor were the same as the previous semester. The results for two semesters, one with daily quizzes and one without, were compared to determine if daily quizzing increased student preparedness. I noticed significantly higher quality class discussions and students who were more engaged than in previous semesters. When I compared the course results from this trial semester to the previous semester without daily quizzes, it was clear that what I observed could be quantified. Absenteeism decreased by 52.57%. This was statistically significant at .034. The case averages (weekly written case studies) were significantly higher as well for the trial session. The previous semester's case averages were 81.92 whereas the case averages for the trial semester were 90.91. This difference was significant at .002 using a t-test for equality of means. However, quiz grades were not significantly different than the exam grade averages, although they were slightly higher. Overall averages were somewhat better for the trial semester, but this difference was not significant at the .05 level of significance. This is because the weights of the quizzes remained the same as the exams. If the cases and class participation component is increased, then these students would have done better overall. Table 1 summarizes these results.

**Table 1: Summary Results of t-tests**

| | Case Analysis | Quiz or Exam | Overall Avg. | Days Absent |
|---|---|---|---|---|
| Trial Semester Daily Quizzes | 90.91 | 86.49 | 87.81 | .91 |
| Previous Semester | 81.92 | 84.27 | 83.56 | 1.92 |
| t-test for equality of means | t=3.515 sig. = .002 | t=.847 sig. = .409 | t=1.774 sig. = .095 | t=-2.27 sig. = .034 |

Note: "Trial Semester" refers to the semester in which the exploratory study was conducted using daily quizzes. "Previous Semester" refers to the semester in which traditional testing methods were used without the technique of daily quizzing.

Further testing was done to determine if a correlation exists between Case Averages and Group assigned (Trial Semester vs. Previous Semester). Kendall's tau b was -.541 significant at .005. The same test was run to determine a correlation between Days Absent and Case Averages. Again the results were significant. Kendall's tau b was -.401 significant at .021. Spearman's rho was also calculated with similar results.

## STUDENT FEEDBACK AND RECOMMENDATIONS:

At the end of the Trial Semester I reviewed this new approach with my students and asked for feedback. Overall the students liked this new approach. They felt it kept them current with the class and that they retained more. I had experimented with some quizzes having as few as 10 multiple choice questions and some having as many as 20. Students felt that 15 multiple choice questions was the right amount. One student suggested sixteen multiple choice questions. This way, if you had one wrong it was graded as 94%, with a 15 question multiple choice quiz one wrong was graded as 93% since I rounded to the nearest whole number. This student felt this might mean the difference between an A and A- in the final grade since my cutoff is 93. Dropping one third of the quizzes seemed excessive, but the students felt this was necessary. A few students took advantage of the "drop" policy at the end of the semester. They had been running a high A average on the quizzes and did not feel it worthwhile to take the last two or three quizzes. These students did not participate in those last few sessions as they had during the entire semester. I learned from this trial run that the last two or three quizzes should be mandatory and cannot be dropped. This should prevent the slacking off of the students with high quiz averages at the end of the session.

Another problem I found was the time it took to administer the quizzes each day. The quizzes took 15-20 away from the class time. The benefits to quizzing, however, overwhelmingly outweighed this drawback. The resulting class discussions were more relevant and students contributed in a more meaningful manner. The quality of the written case analysis the students turned in during this trial semester was of a significantly higher caliber than the semesters before. The difference was noticeable. Case answers were more germane to the course, had less extraneous material. The overall average for the cases was significantly higher during this session than any of the other sessions for this course. The textbook, lecture, and professors were the same for these courses. I believe the reason these cases were done so well is that students were better prepared each day and able to apply what they had learned to the case analysis.

Assessing students based on the best of 10 out of 15 multiple choice quizzes also has drawbacks. The quizzes only measure superficial knowledge. While it motivates students to stay on schedule with readings, and increases their preparedness for class, it does not test in depth knowledge. Rogers (1969) distinguishes between “mechanical memorization” and “affective learning”. These two learning concepts lie at opposite ends of a continuum, with “mechanical memorization” being rote and reflexive while “affective learning” contributes to creativity and abstract thought. The quizzes, for the most part, measure mechanical learning. The Cases more closely measure affective learning. I would recommend adding an essay exam two or three times over the course of the semester or a midterm and final exam to measure critical thinking and application of the concepts learned. This would allow for the measurement of both learning modes. Additionally, I would change the percentages to give more weight to the case analysis and any term project, and less on the daily quizzes. During this trial session I kept the weight of all the quizzes equal to the same weight as 3 exams. For my class this was 70%. This weight worked well when my exams were more comprehensive, including both multiple choice and essay type questions. Since the 15 multiple choice questions tested superficial knowledge, I felt the weight was too high.

In conclusion, I recommend daily or frequent quizzing of subject matter. I urge my colleagues to try this approach. Students will be forced to come to each class, and to come prepared. Class discussions will be noticeably more relevant, written assignments will be more germane to the course content, class attendance will be higher, and students will be motivated and involved during class discussions resulting in a richer experience for all.

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# AN INTEGRATED MODEL OF ONLINE SHOPPING: APPLYING TECHNOLOGY ACCEPTANCE AND PERCEIVED RISK TO E-COMMERCE FOR DIFFERENT CUSTOMER LIFESTYLES

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## ABSTRACT

*The online business environment has provided an opportunity to prosper. Online shopping is regarded as a new technology adoption of website functionality the firms provide. This paper provides an integrated model, which examines the impacts of a website's functionality on online shopping behavior. This integrated model is expected to predict online purchase more accurately by combining Consumer Technology Acceptance Model (c-TAM) and perceived risks for different consumer lifestyles. This paper helps us examine the online shopping behaviors more thoroughly from both sides, IT functionality design and marketing strategies, to better satisfy the different lifestyles' consumers.*

***Keywords:*** *Technology Acceptance Model (TAM), perceived risk, consumer lifestyles, online shopping, E-commerce.*

## 1. INTRODUCTION

Recently, the wired lifestyle or net-oriented consumer has been prospering. The wired lifestyle characterizes users who like to be the first to use the latest communication technologies, spend more hours online than most, and turn to the Internet to email their orders even when shopping from print catalogs (Bellman et al., 1999). This net-oriented consumer seems to emerge as a primary online shopping customer base. However, other potential consumers with different lifestyles might perceive the website extremely differently and thus their online purchasing behaviors are varied.

The convenience and technology of e-commerce provide more enjoyable online shopping experience. Consumers can buy what they want online 24 hours a day, 7 days a week, and 365 days a year. According to the U.S. census bureau, U.S. retail e-commerce sales for the fourth quarter of 2005 totaled \$26.549 billion, an increase of 27.5 percent (±2.1%) from the third quarter of 2005. E-commerce sales continue to grow, especially during the holiday seasons, as it becomes a convenient channel for consumers. Therefore, organizations should not ignore this area of online shopping opportunity and pay more attention to provide and develop better website functionality.

Online shopping has been regarded as an example of technology adoption. The primary interface with e-commerce is the information technology (IT) functionality, a well-equipped website. The IT functionality includes value-added tools such as shopping cart, recommendations, review board from other consumers, security shopping through a third-party, and special visual display of a website.

Previous researches have established that online purchase intentions are the product of consumer assessments of the IT itself, specifically its perceived usefulness and ease of use. These perceived usefulness, perceived ease of use, and user acceptance of information technology form the Technology Acceptance Model (TAM) by Davis (1989). Although TAM is the dominant model to study online shopping behavior, several studies have extended TAM with other constructs such as computer playfulness, cognitive absorption, product involvement, perceived enjoyment, and perceived web quality and usability. In this paper, the proposed model includes both the basic TAM and the Consumer Technology Acceptance Model (c-TAM) (Bruner & Kumar, 2005).

There are divergences in the online shopping research topic. Research has used many ways to analyze the relationship between the antecedents of consumer online shopping behaviors, including the explanations based on trust, technology, and individual differences such as demographics, brand preference, and consumer lifestyles. Mowen (1987) points out that consumer lifestyles influence the perspectives of living, money, and time. Based on this description, Kim, Cho, and Rao (2000) divided the online shoppers into three empirical categories for different lifestyles: price-oriented, net-oriented, and time-oriented. In view of more modern customers shop just for fun or innovation (Miller *et al.*, 1995), therefore, the integrated model in this paper adds one more consumer lifestyle: novelty-oriented. Novelty-oriented consumers are those who pursue innovation or something novel, regardless the price or practical purpose of the product.

Other factors also have impacted online purchasing, such as website's download speed/delay, interactivity, response time, navigability, information content, layout or color used, website personalization, shipping errors, convenience, customer relations, informational fit to task, intuitiveness, visual appeal, social uncertainty, risk, and economic factors such as cheaper prices. Consumers create perceived risk and perceived benefit based on these factors, and thus those perceptions influence the online purchase intention and actual purchase.

In section II, this paper reviews the relevant literatures of online shopping and develops an integrated model to examine the impact of a website's value-added functionality on online purchase intention and actual online purchase behaviors. This integrated model combines the c-TAM (perceived usefulness, perceived ease of use, and fun/playfulness) and perceived risk framework on online shopping for four different consumer lifestyles. Section III provides the discussions and Implications of the integrated model of online shopping. Limitations and future research would be provided in section IV.

## 2. LITERATURE REVIEW AND HYPOTHESIS

An e-commerce website is both an IT infrastructure and the channel for consumers to interact with. The e-commerce application, IT-based functionality, and other antecedents of online purchase should work together to influence the consumers' online shopping decision with a particular e-commerce organization. This section elaborates on the theory utilized in this study, and further derives the hypotheses. First, the integrated research framework of online shopping is depicted in Figure 1 below.
One fundamental assumption of classical economic theory regarding consumers' behavior is that the consumers always make rational or at least boundary rational decisions based on the limited information they have. The underlying logic of this integrated model is that consumers make an online purchasing decision based on their perception of benefits and risks (perceived benefits and risks). In this model, perceived benefits are examined further with c-TAM, and perceived risks are tested by familiarity and trust issues of the websites.

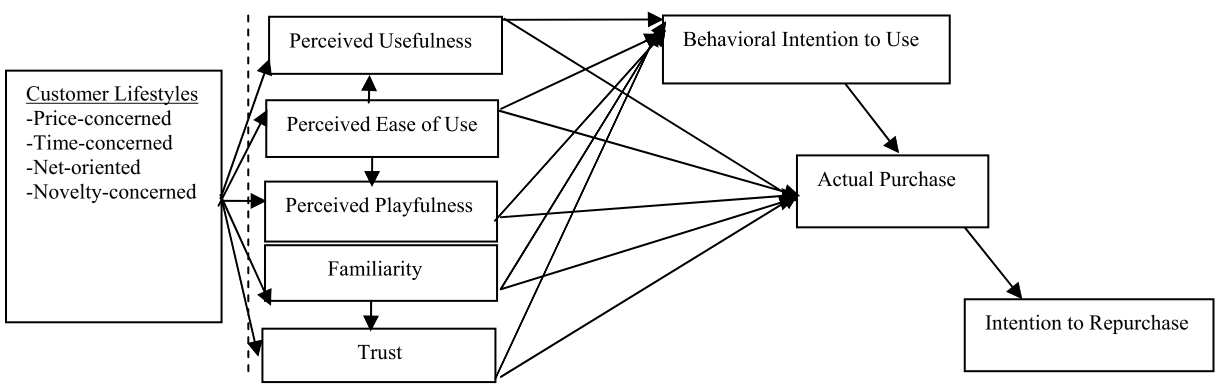


**FIGURE 1 AN INTEGRATED MODEL OF ONLINE SHOPPING**

### 2.1 CONSUMER TECHNOLOGY ACCEPTANCE MODEL (C-TAM)

Currently, the most popular tool to describe adoption is the technology acceptance model first proposed by Davis (1989). The technology acceptance model (TAM) was developed to explain and predict computer-usage behavior. The TAM is a theory that models how users come to accept and thus use a technology. The model suggests that when users are presented with a new software package, a number of factors influence their decision about how and when they will use it, based on perceived usefulness (PU) and perceived ease-of-use (EOU) (Davis, 1989). Several researchers have extended the traditional TAM to include other factors in their research models, such as flow theory (Koufaris, 2002), focusing on familiarity and trust (Gefen, 2000), integrating with trust (Gefen *et al*., 2003), considering compatibility, privacy, security, normative beliefs, and self efficacy (Vijayasarathy, 2004), combining task technology fit model (Klopping & McKinney, 2004), linking with fun (Bruner & Kumar, 2005), and so on. These extended models have better prediction ability to examine the online shopping behavior than applying the TAM alone.

Factor playfulness may be an important addition to the technology acceptance model (Childers *et al*., 2001; Dabholkar & Bagozzi, 2002; Bruner & Kumar, 2005). This study follows Bruner and Kumar's (2005) c-TAM to investigate TAM in a consumer context with a hedonic factor, playfulness.

### 2.1.1 INTENTION TO USE/PURCHASE

Several researchers use intention to use in their framework to examine the consumer online shopping behaviors if they are applying the TAM to their studies (Davis, 1989; Koufaris, 2002; Gefen *et al*., 2003; Vijayasarathy, 2004; Klloppiing & McKinney, 2004; Bruner & Kumar, 2005). The intention to use and the actual use are two different concepts. The intention to purchase means that the customer intends to buy online, but he or she not yet make the online order. Perceived ease of use and perceived usefulness of a website influence the intention to purchase. Chouk & Perrien (2004) further specify intention to recommend the website and intention to purchase from the website to represent the behavioral intention to use.

### 2.1.2 ACTUAL USE/PURCHASE

Davis *et al*. (1996) further specify that intention to use is the best predictor of actual use in TAM framework, and thus other researchers follow this in their research model (Kim et al, 2000; Klopping & Mckinney, 2004). The actual purchase means the customers made the online purchase decision after using the website's functionality. In this integrated model, the actual purchase includes purchase at the same website or at other websites, purchase amounts, and frequency. Basically, the intention to purchase leads to the actual purchase. Actual purchasing behavior measures the recent amounts and frequency that respondents purchased through e-commerce.

*H1a: The customers' intention to purchase is positively related to their actual purchase.*

### 2.1.3 INTENTION TO REPURCHASE

After the actual purchase, the customer satisfaction influences the willingness of customer to conduct business again with the same website. Does consumer loyalty exist in e-commerce environment? Will the customer repurchase at the same website? It's widely believed in marketing strategies that it's easier to keep current customers than to attract new customers. Therefore, the intention of repurchase is also important and included in the integrated model. Koufaris, Kambil, and LaBarbera (2001) and Koufaris (2002) consider the unplanned purchase and intention to return for empirically testing the consumer online shopping behavior. In our model, intention to repurchase includes loyalty and repurchase, such as whether the respondents want to enroll the loyalty program the website provides and the positive word of mouth to others.

*H1b: The customers' actual purchase is positively related to their intention to repurchase.*

### 2.1.4 PERCEIVED USEFULNESS (PU)

Perceived usefulness (PU) was defined by Davis (1989) as the degree to which a person believes that using a particular system would enhance his or her job performance. If the customers perceive the website functionality as useful, then they will have more intention to purchase at this website (Davis, 1989; Davis & Venkatesh, 1996; Vijayasarathy, 2003; Gefen *et al*., 2003; Bruner & Kumar, 2005). Klopping and Mckinney (2004) show the perceived usefulness is directly linked to the actual purchase in their modified TAM. Perceived usefulness includes questions regarding using the website functionality to improve consumers' effectiveness, efficiency, and productiveness to find the right product they want.

*H2a: The customers' perceived usefulness of the website is positively related to their intention to purchase.*

*H2b: The customers' perceived usefulness of the website is positively related to their actual purchase.*

#### 2.1.5 PERCEIVED EASE OF USE (EOU)

Perceived ease of use (EOU) has been defined as "the degree to which a person believes that using a particular system would be free from effort" (Davis, 1989). If the customer perceives the website functionality easy to use, then he or she will have greater intention to purchase at this website (Davis, 1989; Davis & Venkatesh, 1996; Vijayasarathy, 2003; Gefen *et al*., 2003; Bruner & Kumar, 2005). Several researchers (Davis & Venkatesh, 1996; Gefen *et al*., 2003; Vijayasarathy, 2004; Bruner & Kumar, 2005) further modified the TAM to link the EOU to PU. Their empirical evidences show the EOU has positive impacts on PU. Perceived ease of use includes questions regarding using the website functionality make consumers find something without lots efforts, easy to find what they need.

*H3a: The customers' perceived ease of use of the website is positively related to their intention to purchase.*
*H3b: The customers' perceived ease of use of the website is positively related to their actual purchase.*
*H3c: The customers' perceived ease of use of the website is positively related to their perceived usefulness of the website functionality.*

#### 2.1.6 PERCEIVED PLAYFULNESS/ FUN

In Lin, Sheng, and Tsai's (2005) model, they mentioned that playfulness was regarded as an individual state, because an individual can feel more or less playful at different points during his or her visit to a website. Bruner and Kumar (2005) also mentioned if systems that are easier to use will also be perceived as more fun to use than those that are more cumbersome and frustrating to use". Higher levels of fun (Bruner & Kumar, 2005), playfulness (Sheppard *et al*., 1988; Lin *et al.* 2005) or enjoyment (Koufaris et al., 2001; Koufaris, 2002) of a website leads to more favorable attitudes toward using a website and greater intention to purchase a product. Perceived playfulness includes whether the customers find the website visiting interesting, enjoyable, fun, and exciting.

*H3d: The customers' perceived ease of use of website is positively related to their perceived playfulness of the website functionality.*
*H4a: The customers' perceived playfulness of website is positively related to their intention to purchase.*
*H4b: The customers' perceived playfulness of website is positively related to their actual purchase.*

### 2.2 PERCEIVED RISKS

Before customers make the online purchase decision, customers need to evaluate the benefits and risks from buying at the website. If customers' perceive benefits more than they perceive risks, then customers are more likely to make online purchases. In this integrated model, perceived benefits include all the factors mentioned in the c-TAM: perceived ease of use, perceived usefulness, and perceived playfulness. Perceived risk is the risk customers believe exists in the purchase of goods or services from a specific e-commerce, whether or not a risk actually exists. In Kim *et al.* (2000) study, the perceived risk includes the trust issue and familiarity of the website. To be notable, the perceived risk is negatively related to trust and familiarity.

#### 2.2.1 TRUST

Consumers are reluctant to make online purchase because e-commerce can behave in an opportunistic manner (Koufaris et al., 2001). Trust is crucial in building customer relationship, especially involves an element of risk when interacting with an e-commerce (Reichheld & Schefter, 2000). Trust is an expectation that customers think the application will not behave opportunistically by taking advantage of the situation, such opportunism behavior includes unfair pricing, conveying inaccurate information, violations of privacy, unauthorized use of credit card information, and so on. More specifically, Gefen *et al*. (2003) defined trust as the consumers' willingness to depend on the certain e-commerce. Chouk and Perrien (2004) also examine the relationship of consumer trust towards an unfamiliar web merchant. However, if the customers feel trust toward the e-commerce, they are more likely to have higher intentions to purchase, and thus make the actual purchase. Trust measurements include items that consumer believes the e-commerce is honest, predictable, trustworthy, and cares about customers.

*H5a: The customers' perceived trust on the website is positively related to their intention to purchase.*
*H5b: The customers' perceived trust on the website is positively related to their actual purchase.*

### 2.2.2 FAMILIARITY

As Brehm and Kassin (1998) state, "familiarity is the phenomenon that suggests that the more often that people are exposed to a certain stimulus, the more positively they will evaluate and therefore trust it." If the familiarity increases, it means customers get a better understanding of the transaction process with the e-commerce and therefore also increases the consumer trust. Further, when trust is considered as a future expectation, familiarity provides a background for such expectation (Gefen, 2000; Gefen *et al*., 2003; Chouk & Perrien, 2004). Items selected to measure familiarity include the familiarity with the web site category, with online shopping process, and with Internet.

*H6a: The customers' perceived familiarity of website is positively related to their intention to purchase.*
*H6b: The customers' perceived familiarity of website is positively related to their actual purchase.*
*H6d: The customers' perceived familiarity of website is positively related to their perceived trust.*

## 2.3 CUSTOMER LIFESTYLES

Organizations use marketing segmentations to target different consumers. To identify distinctive consumers and provide them various strategies are important especially for e-commerce. The relevant studies in segmentation are weak, and this topic is still new to explore. Mowen (1987) points out that consumer lifestyle relates to how people live, how they spend their money, and how they allocate their time. Kim *et al.* (2000) based on Mowen's (1987) description of customers, and identified three online shoppers' lifestyles: price-oriented, net-oriented, and time-oriented style. They defined price-oriented consumer as someone who cares more monetary factors when purchasing, net-oriented consumer as someone who surfs online for several years that the online activities have become parts of his life, and time-oriented consumer as someone who is busy and needs to find new ways to shop and save time. Miller *et al*. (1995) points out that the centrality of novelty becomes the main propellant in modern consumption. Furthermore, one more customer lifestyle is added in this integrated model, the novelty-oriented consumer for the modern society. This style of consumers likes to contact creativity and is brave to be the first one to try novelty or new technology.

Kim *et al.* (2000) build the constructs for three different consumer lifestyles. A customer's net-oriented lifestyle is measured by such items as the frequency and amount of time of using a website browser, and the online surfing skills. Price-oriented style is measured by severity of financial costs/charges by continuing to shop with this Internet retailer, the attractiveness of special rewards and discounts from this Internet retailer, overall happiness with this e-commerce's price, and offering of a good economic value from this e-commerce. Time-oriented style is measured by four items: consumer needs efficient way to manage his or her time with making an online purchase, saving time with making an online purchasing, and allowing him or her to shop on tight schedule. Furthermore, the perception regarding consumer's needs for novel products, pursuing unique identity, and creativity help us to distinguish the novelty-oriented lifestyles.

In this integrated model, we could examine the relationship between the varied consumer lifestyles and their online shopping behaviors respectively. However we don't know whether the positive or negative relationship they are, we could only hypothesize that the different consumer lifestyles have impacts on perceived usefulness, perceived ease of use, perceived playfulness, trust, and familiarity.

*H7a. The different consumer lifestyles have impacts on perceived usefulness of the website.*
*H7b. The different consumer lifestyles have impacts on perceived ease of use of the website.*
*H7c. The different consumer lifestyles have impacts on perceived playfulness of the website.*
*H7d. The different consumer lifestyles have impacts on trust of the website.*
*H7e. The different consumer lifestyles have impacts on familiarity of the website.*

## 3. DISCUSSIONS AND IMPLICATION

Drucker (1954) said “the business enterprise has two and only two basic functions: marketing and innovation. Marketing and innovation produce results; all the rest are costs.” For e-commerce, the innovation is shown by the value-added website functionality, and marketing could be different marketing strategies for distinctive segmentations. Therefore, this study tries to combine these two basic functions with an integrated model of online shopping to provide better understanding of consumer behavior for e-commerce.

More specifically, this paper provides the integrated model with consumer technology acceptance model (c-TAM) and perceived risk, which includes perceived usefulness, perceived ease of use, and perceived playfulness, which has higher explanation ability for the online shopping behavior. To get better idea of how customers perceive of a website helps IT department develop more effective website functionality in order to improve the e-commerce performance. Furthermore, the examinations for different customer lifestyles also help marketing managers to have specific marketing strategies for different market segmentations. All consumer lifestyles have high potentials to be online shoppers; therefore, e-commerce should pay more attention both on the IT infrastructures improvement and on the marketing strategies. The marketing strategies to maintain the current customers are more efficient ways than to attract new customers for online shopping. Therefore, to identify the effective value-added functionalities and keep improving the ineffective ones are critical for the successful increases in online sales especially for the different lifestyle consumers.

## 4. LIMITATION AND FUTURE RESEARCH

By establishing the appropriateness of c-TAM and perceived risk as theoretical anchors for e-commerce adoption, this study suggests a rich series of follow up issues that would improve our understanding of online shopping behaviors. Since the online shopping is a hot topic, there are many opportunities for future research. Our integrated model calls for the further empirical examination.

There are some limitations of this study. In this research model, only one factor, overall website functionality, is used to represent all the value-added features. However, different value-added functionalities or tools have different impacts on customers. Not all value-added functionalities enhance the perceived benefits to consumers. For example, the customer review board doesn’t show the same added value for most of the customers. Some customers tent to believe negative customer review ratings, and thus decline to purchase. The others believe the review is written by manufacturers. Further research could examine the distinctive website tools respectively to identify the effective or ineffective website functionality. Therefore, e-commerce could keep working on the IT infrastructures improvements to ensure better benefits for the customers.

One future research direction is to examine how customer fondness can be maintained in an e-commerce environment. Sometimes, the customers will use the functionalities of one company but make the purchase at another e-commerce. Therefore, future research could find ways to divide the different types of online purchase: the real purchase where the consumer uses the website functionality and purchases at the same website, or purchases at the different website. Furthermore, it’s essential to find out the reasons why consumer is willing to stay at the same website. Then the e-commerce could search ways to keep its customers staying in the same website for actual purchase or increase any unplanned purchase.
One interesting direction is that researcher could elaborate more factors in the perceived risks area. For example, the perceived risks could include more contents such as reputations of a website, perceived control from consumers, privacy, and so on. Last, the future researchers could link this integrated model to the recent factors which are seldom considered, such as customer online loyalty, customer satisfaction, and service quality of usefulness or fitness.

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## PLAGERISM AND INDIVIDUAL DIFFERENCES: A CRITERION STUDY

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### ABSTRACT

*Plagiarism and other forms of unethical conduct are endemic in our society today. CEOs (e.g. Swanson of Raytheon) and authors (Kavya Viswanathan) have hit the headlines with reports on their plagiarized works. Scholarly research into the phenomenon has been limited by a necessary focus on student self-reported cheating. While a wide array of demographic, personality, and situational factors have been linked to the likelihood that an individual will cheat, previous research has not used actual plagiarism behavior as a criterion variable.*

*The current research establishes the association between individual differences related to integrity, counterproductive behavior, workplace deviance and actual cheating behavior over the course of an academic quarter. A total of 158 students from a western United States university participated in the study. Results show 72% of students actually plagiarizing, and significant differences between plagiarizing and non plagiarizing students in often counterintuitive directions. Results and directions for future research are discussed.*

***Keywords**: Business Student Plagiarism, Integrity, Ethics, Criterion Study, Individual Differences*

### 1. INTRODUCTION

Ethical dilemmas in the organizational environment challenge us to establish meaningful indicators of behavior that may impact the quality of one's experience, be it in academia, the military service or white-collar workforce. On a daily basis, the news is full of questionable accounting processes, sole-source contract awards with the government seemingly based on relationships with the current administration, and lies, blatantly pushed in front of recipients in the face of contradictory facts. At the same time, in the academic environment, we face a growing number of complaints from hard-working students who see fellow students willing to breach ethical codes to be rewarded for their behavior. Ongoing surveys of recent university graduates (both graduate and undergraduate) suggest that the current levels of plagiarism are serious concerns of students, professors and administrators.

While a majority of students understand that cheating is ethically incorrect, most acknowledge cheating at some point during their academic career (Davis et al., 1992). Researchers have also consistently found significant differences between business students and students of other disciplines in relationship to both engaging in academic cheating (McCabe and Trevino, 1995), as well as a be more tolerant towards cheating behaviors (Roig and Ballew, 1994).

### 2. GENDER

Bushway and Nash (1977) reviewed research prior to 1972, and concluded men participated in cheating behavior more often than women. Ford and Richardson’s (1994) literature review of ethical decision making found seven studies with no significant differences between genders and seven manifesting some gender differences. Coleman and Mahaffey (2000) found women being more intolerant of cheating behavior in universities than men. The Crown and Spiller (1998) review of the literature on collegiate cheating (1998) supports early findings of cheating behavior being more prone to cheat than women, but finds a declining amount of support for the finding in more recent research.

### 3. INDIVIDUAL DIFFERENCES

Very few studies in the business ethics literature have focused on the role of individual difference (specifically personality) variables in relationship to plagiarism. Some of the variables that have been explored are locus of control (Forsyth et. al., 1985), neuroticism and extraversion (Bushway and Nash, 1977), and personality type (Coleman and McHaffey, 2000). While the studies have predominantly focused on academic plagiarism, we wanted to explore the relationship between psychometric measures of individual differences and academic plagiarism. Surprisingly, only one piece of research addressed the relationship between academic dishonesty and integrity, with none addressing academic plagiarism and psychometric measures of integrity.

All various studies that have attempted to link classroom cheating and unethical behaviors in organizations (Lawson, 2004) suffer from the same problem the majority of cheating and plagiarism studies suffer from: lack of a valid criterion measure.

## 4. INTEGRITY, HONESTY AND CHEATING

Integrity tests grew out of the lack of validity associated with polygraph tests in the measurement of honesty. They have been used widely for pre-employment selection tests and associated with a wide array of other occupational behaviors: honesty, violent tendencies, turnover likelihood, theft likelihood, counterproductive employment behaviors and white-collar crime (Wanek, 1999). Based on a review of the literature, we have not been able to find any studies that explore the relationship between measures of integrity and academic plagiarism.

Integrity tests take two forms, overt and personality based (Sackett, Burris, and Callahan, 1989). Overt integrity tests clearly indicate the specific type of behavior that the test taker may have participated in. In this sense they have good face validity, and are called “clear-purpose tests". Personality based measures of integrity do not indicate the specific types of behavior that the researchers are interested in, but relate to personality traits that may be associated with the likelihood to participate in either negative or positive employment behavior. While there have been various arguments for the validity of integrity tests, Wanek (1999) reviews the current field of research in the statement: “To summarize what we know, evidence supports the conclusions that professionally developed, commercially available integrity tests are reliable, valid predictors of productive and counterproductive measures of job performance."

## 5. INTEGRITY, PERSONAL SELECTION AND WHITE-COLLAR CRIME

In a critical review of the literature, Ones and Viswesvaran (2001) explored the impact of criterion focused occupational personality skills (COPS), with an emphasis on criterion related validity, construct validity, and incremental validity in integrity measures, as well as measures of counterproductive behavior. They specifically focused on these measures as they related to personal selection, as a wide swath of American businesses use integrity measures as part of their hiring process. In a meta-analysis based on 665 validity coefficients, they investigated integrity test validities across three different criterion categories: job performance, general counterproductive behavior work, and theft. They found that after correcting for range restriction and unreliability in the criterion, validity coefficients of .29 were found for broad counterproductive behaviors, and .41 between supervisory ratings of overall job performance and personality based measures of integrity. In the current study, we use a measure of integrity to facilitate understanding of its relationship to academic plagiarism

## 6. OTHER INDIVIDUAL DIFFERENCES MEASURES USED TO PREDICT EMPLOYEE BEHAVIOR

As business students are likely to become engaged in difficult ethical situations by virtue of their career paths, and the keen focus the government and the media have placed on ethical considerations, we also considered the impact of other individual difference measures in predicting plagiarism behavior. Importantly, early approaches to integrity tests had a range of titles. For example, the title of the construct being measured ranged from honesty, conscientiousness, reliability, dependability, and trustworthiness. The Sackett Burris, and Callahan (1989) paper found more general use of the title “integrity tests”, and as such, the term “integrity tests” been used to describe the entire genre.

Collins and Schmidt (1993) used subscales of the California Personality Inventory (specifically the responsibility, socialization, and self-control scales), a biodata scale, and the PDI Employment Inventory (a personality measure predictive of productive or counterproductive employee behavior). They compared 365 federal prison inmates convicted in federal courts of white-collar crimes to 344 individuals employed in white-collar positions of authority, and found strong correlations between membership in the non-offender group and performance (.78), socialization (.57), tolerance (.53), and responsibility (.50). As in the majority of integrity studies, (and academic cheating studies) the criterion variable is weak. It is difficult to assess how prevalent white-collar crime is in business today due to a lack of effective governance and compliance agencies, that there may be key psychological differences between those who participated in white-collar crimes and those have been caught participating in white-collar crimes, thus the Collins and Schmidt study may be dealing with a highly attenuated sample (whereas self report measures are suspect in the cheating studies). In the current study, we examine the relationship between academic plagiarism and responsibility, socialization, and self-control.

## 7. IS ACADEMIC PLAGIARISM THE SAME AS DEVIANT BEHAVIOR IN THE WORKPLACE?

Previous research supports the notion that business students believe they are more ethical than business people in the actual workplace. At the same time, in self-report assessments across the cheating literature, students report consistent cheating across their academic endeavors. Lawson (2004) surveyed undergraduate and graduate students in three business schools in New York regarding their agreement with ethical behavior in the business world. Lawson found that students expect people in the business world to not act in an ethical manner. Of great interest was the finding that students believe unethical behavior is required to advance careers, which in turn may promote the use of business school as a training ground for these attitudes and potentially associated behaviors. Given the strength of the theory of reasoned action and planned behavior (Sutton, 1998), people with the aforementioned attitudes will potentially find themselves in situations (business students becoming business people) that will facilitate the application of attitudes with resulting behaviors being unethical.

## 8. CURRENT STUDY

The current study utilizes the newly available criterion variables (the Turnitin dichotomous and originality report variables) to examine the veracity of the previous literature. Given the reliance on self-reported cheating behavior or the past four decades, we have an opportunity to examine one area of cheating, specifically plagiarism. We aim to clarify the impact of individual differences (specifically gender, integrity, responsibility, stability and self-control) on plagiarism behavior.

## 9. HYPOTHESES

1. No significant differences will be found between genders
2. Significant differences will be found between plagiarism and non-plagiarism groups in the following individual differences scales:
    a. integrity
    b. responsibility
    c. stability
    d. self-control

## 10. PARTICIPANTS

Participants were students from a medium-sized western United States university. The sample consisted of 115 participants from both graduate and undergraduate. Data collection was part of an opportunity for extra credit in all of the classes during the winter quarter 2005/2006. Participation was voluntary and the instruments were administered via an online survey package (PHPSurveyor) at several different points during the quarter to ensure students did not suffer fatigue. The majority of participants were from two disciplines, Business Administration or Criminal Justice administration, were an age range of 21 to 50 plus, the majority being between 21 and 25 (70%). The papers that were evaluated for plagiarism were research papers that were turned in for class credit during the course of the quarter at a medium-sized university in the Western United States.

## 11. MATERIALS

Students completed the following standardized measures in the first data collection: integrity, and impression management (to statistically control for socially desirable responses). Three weeks later, the following measures were collected: responsibility, stability, self-control, and reliability. All data collections as well as the turn-it-in paper results were matched according to individual student identification codes. Based on our sample, reliability and basic statistics are available for all measures are presented in Table 2.

**TABLE 1: DESCRIPTIVE STATISTICS FOR PARTICIPANTS**

| Demographics | N | Percentage of Sample |
|---|---|---|
| Gender | | |
| Male | 66 | 33.8 |
| Female | 92 | 47.2 |
| Educational Standing | | |
| Undergraduate | 125 | 64.1 |
| Graduate | 33 | 16.9 |
| Ethnicity | | |
| African American | 21 | 10.8 |
| Asian | 26 | 23.6 |
| Caucasian | 33 | 16.9 |
| Latino | 26 | 13.7 |

## 12. INSTRUMENTS

It is important to note that the majority of research regarding integrity measures has been conducted by test publishers (Camara & Schneider, 1994) generally for the purpose of validating and publishing tests for commercial consumption. This makes academic research prohibitively expensive and potentially time-consuming. This is the main reason we have utilized public domain individual differences instrumentation available from the International Personality Item Pool (IPIP).

The IPIP approaches these problems by justifying scale-construction by providing acceptable Chronbach's alphas for different proprietary instruments. For our purposes, alpha scores from relative personality construct scales were used from the IPIP proxy of the Personality Attributes Scale (PAS), the California Psychological Inventory (CPI), and the Values in Action (VIA).
From the IPIP PAS, the impression-management scale (a person's idealized projection of themselves) was administered (Derlega, Winstead, & Jones), yielding an alpha of 0.82.

From the IPIP CPI, three scales were used: the responsibility scale and socialization scale which are an evaluation of an individual's level of "conscientiousness, honesty, dependability, and practicality", and "alertness to ethical and moral issues" (Kaplan & Saccuzzo, 2001); these two scales yield alphas of 0.66 and 0.70, respectively. The third scale, a self-control scale, which is a measure of an individual's perceived control over life events (Derlega, Winstead, & Jones), yield an alpha of 0.71.

Turnitin.com is an online plagiarism evaluation system provided to faculty to prevent students from attempting to pass others' work off as their own. Student papers that are uploaded into the system are evaluated by comparing it to the Turnitin.com internal database of academic materials (student papers) previously submitted in any university that uses the feature; the ProQuest database of academic journals and periodicals and the Internet. Within a few minutes, the system provides originality reports that documented the percentage of words matched in the aforementioned searches, along with the originating location. Researchers had to manually screen the papers to ensure that the system excluded quotations, references and other bibliographic materials.

## 13. PROCEDURES

The first class meeting of the quarter was spent reviewing class expectations, university guidelines, and Americans with disabilities act compliant recommendations. Students were advised that plagiarism would not be tolerated and when recognized, would result in a failing grade for the course, being reported the University, as well as potential expulsion from the University. The syllabi for the classes also contained the information regarding plagiarism.

Students uploaded their papers to the Turnitin system. Based on our previous discussion of the system, we individually removed all cited, quoted and bibliographic references, as well as check for potential errors in categorizing cheating behavior by Turnitin.

## 14. RESULTS

After careful screening of research papers, 72% of students were found to have plagiarized. Basic descriptive statistics and reliability estimates for all scales were established and are reported in table 2. Cronbach's alphas were calculated for all IPIP individual differences measures. All yielded acceptable alpha levels (see table 2).

**TABLE 2: DESCRIPTIVE STATISTICS AND CRONBACH'S ALPHA FOR INDIVIDUAL DIFFERENCES MEASURES**

| | N | Mean | SD | Alpha |
|---|---|---|---|---|
| Impression-management | 158 | 3.53 | .53 | .82 |
| Integrity | 158 | 4.21 | .61 | .84 |
| Responsibility | 158 | 4.06 | .52 | .80 |
| Stability | 158 | 3.59 | .62 | .74 |
| Self control | 158 | 3.36 | .63 | .74 |
| Interpersonal Workplace Deviance | 154 | 1.45 | .67 | .88 |
| Organizational Workplace Deviance | 154 | 1.61 | .59 | .87 |

Analysis of variance (Lunney, 1970) was used to establish significant differences between male and female participants. This finding is both inconsistent with much of the early research on gender differences and cheating behavior, as well as the more recent literature showing no evidence of significant differences between the genders. As such our hypothesis was not supported as women plagiarized significantly more than males in our sample.

**TABLE 3: GENDER AND ORIGINALITY REPORT (LOG TRANSFORMED) ANOVA**

| | df | Mean Square | Male | Female | F | Sig. |
|---|---|---|---|---|---|---|
| Between Groups | 1 | 1.126 | 1.71 | 2.24 | 8..063 | .005 |

Multivariate analyses of variance were then used to establish significant differences between the plagiarism and non-plagiarism group. Significant differences were found between the plagiarism and non-plagiarism groups in the integrity and responsibility scales but not the stability or self-control scales (see table 4).

**TABLE 4: TESTS OF BETWEEN-SUBJECTS EFFECTS (MANOVA)**

| Source | Dependent Variable | df | Mean Square | Did not | Did | F | Sig. |
|---|---|---|---|---|---|---|---|
| Dichotomous Plagiarism | Integrity | 1 | .826 | 3.97 | 4.31 | 3.937 | .050 |
| | Responsibility | 1 | 1.915 | 3.77 | 4.16 | 10.090 | .002 |
| | Stability | 1 | .510 | 3.39 | 3.64 | 1.656 | .201 |
| | Self control | 1 | .177 | 3.36 | 3.39 | .563 | .455 |

After statistically controlling (using impression management as a covariate and are MANOVA) for the impact of impression management, significant differences were found between the plagiarism and non-plagiarism group in all scales. This suggests participants were concerned about the way they might be perceived based on the individual differences measures collected (see table 5).

**TABLE 5: TESTS OF BETWEEN-SUBJECTS EFFECTS (MANOVA) USING IMPRESSION MANAGEMENT AS COVARIATE**

| Source | Dependent Variable | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Impression Management | Integrity | 1 | 18.779 | 89.480 | .000 |
| | Responsibility | 1 | 6.652 | 35.040 | .000 |
| | Stability | 1 | 8.514 | 27.620 | .000 |
| | Self control | 1 | 14.916 | 47.516 | .000 |

To establish theme relationship between individual differences and plagiarism behavior, partial correlations between the originality report score and the individual differences variables were then run, with impression management being partialed out. Interestingly, small significant correlations were found between the integrity and responsibility scales. This finding is consistent with our MANOVA results and suggests that, while our instructions asked participants to use candor in responding to the questionnaire, impression management had a significant impact on participants' responses.

**TABLE 6: ORIGINALITY REPORT AND INDIVIDUAL DIFFERENCES SCALES PARTIAL CORRELATION CONTROLLING FOR IMPRESSION MANAGEMENT (TWO-TAILED)**

| Scale | Originality Report Correlation | Originality Correlation |
|---|---|---|
| Integrity | Correlation | .193 |
| | Significance | .040 |
| Responsibility | Correlation | .235 |
| | Significance | .012 |
| Stability | Correlation | .136 |
| | Significance | .149 |
| Self Control | Correlation | .045 |
| | Significance | .632 |

## 15. DISCUSSION

H1: Significant differences were found between genders, with females actually plagiarizing more, disconfirming hypothesis one. While the academic cheating literature has been unclear in regards to gender differences, the use of a criterion variable has established significant differences. The literature has not given any direction regarding the likelihood that females might be more prone to cheat than males, but as both undergraduate and graduate institutions reflect surging female demographics previously "male" associated behavior such as plagiarism may become more normative. Further research will examine the contribution of risk-taking, conscientiousness, and other individual differences in these differences.

H2: The most surprising and counterintuitive findings in this research is reflected in the MANOVA that was performed. While there were significant differences between those who plagiarized and those who didn't, the scores on the scales that theoretically would be predictive of plagiarism behavior were actually opposite of previously reported research using self-report data on cheating. For example, those who scored high on measures of integrity and responsibility were significantly more likely to plagiarized and those who were not. This finding is troubling for several reasons:

1. The measures of integrity, responsibility, stability, and self-control could be construed as overt (i.e. participants knew that the study was looking at socially undesirable behavior and responded in a strongly socially desirable manner).

2. Participants who scored high in the aforementioned scales actually perceived themselves to be more stable and responsible, have more self-control and integrity than those participants who did not plagiarize. If this is the case, it may be that plagiarizing is so commonplace in the academic environment (which the aforementioned 72% rate speaks to) that these participants did not see anything actually wrong with this type of behavior. The partial correlations between the amount plagiarized and the workplace deviance scales also supports this interpretation.
3. The lack of significant differences in plagiarism behavior (before controlling for impression management) in stability and self-control may also reflect the somewhat overt nature of these scales. With items such as "I act wild and crazy" or "I make enemies", it is easy to see where social desirability might constrict participant responses. Interestingly after controlling for impression management, significant differences are found, but the directional nature of the findings run counter to established theoretical and research findings.
4. A majority of previous criterion studies using integrity measures have focused on post accusatory measurement. For example, in the Collins and Schmidt validation of the construct of integrity in white collar crimes, the participants have already been incarcerated and the measures are being applied post hoc. Accordingly, their self assessments are highly accurate given the environmental opportunity to reflect on their actual behavior. Consideration of the timing of the collection of criterion variables must being given, as well as to the ordering, and collection of the independent variables.

As the individual differences have been used to assess likelihood of participation in white collar criminal behavior, measures of workforce deviance will correlate significantly with the percentage of plagiarism per individual paper.

Most importantly, these results the question the veracity of using individual difference measures for the prediction of cheating behavior, and specifically plagiarism. In much of the integrity literature, for example, the construct is used to address almost any type of illegal or questionable behavior. For example, "deviant behavior in the workplace such as cheating, theft, property damage, hostility towards coworkers, undependability, absenteeism and substance abuse" (Lucas et al., 2005) may be too broad a range of behaviors to be accurately assessed by one, 10-item scale, or as in our case, four 10-item scales.

## 16. IMPLICATIONS

The academic cheating literature has been plagued by a lack of criterion variables. As such, researchers have been assessing the relationships between attitudes, as opposed to the relationship between individual differences and behaviors. As previous researchers have pointed out (Bennett) the construct of integrity has been used to predict the likelihood of everything from workplace deviance, to federal crimes. This raises serious implications for the measurement of unethical behavior.

First and foremost, this study uses actual plagiarism to establish the relationship between variables that have been previously linked theoretically through self-report measures. While a great deal of literature exists regarding cheating behavior in academia, this has been loosely defined as copying test answers from other students, plagiarism, taking a professors materials, and sharing test results. While this literature offers direction in terms of expected behaviors, the majority but has not been tested using an actual criterion.

As previously mentioned in the discussion, close attention must be paid to the actual ordering of data collection when using criterion variables. In our circumstance students took a series of individual difference questionnaires, and while they had been informed of the ramifications of plagiarism, we did not discuss nor describe how we would identify plagiarism. Given the fact that the students had not been caught cheating when they took their individual difference questionnaires, the integrity questions were most likely not very salient to them.

There is a great deal of research to support basic flaws in self-assessment, and two broad categories are discussed in the Dunning, Heath, and Suls (2004) monograph on flawed self assessment. Specifically, individual self perceptions are more often than not incongruent with objective reality, and individual predictions of specific behavior are at odds with actual situational behavior.

Self-assessments are generally subject to the unrealistic expectations and optimism of people with inflated views of their experience, knowledge, and characteristics. An example from the Dunning et. al article follows "In a survey of nearly one million high school seniors, 70% stated that they had ''above average'' leadership skills, but only2%felt their leadership skills were ''below average.'' (Dunning, et. al., 2004). This above average effect may be caused by people lacking objective information by which they might compare themselves to others. In our circumstance, the analogy of a clever child, who considers himself too smart (to be caught by their parents, suddenly becoming contrite after being caught, having to face the reality of their behavior may apply.

For the purposes of further research, establishing the critical differences between those who plagiarized and those who didn't should take the forefront of research. Specifically, we need to establish previous conditions that may have made the integrity and individual differences items more salient to our participants, and/or what life events have impacted the way that non-plagiarizers responded to the aforementioned items should be addressed.

In summary, the current research has established significant differences between those who plagiarize, and those who don't. Based on the use of an actual criterion, measure, and the collection of our individual differences data before the criterion variable was revealed we have interpreted our results as reflecting flawed self-assessment, as well as self bias in those who may have not encountered ethically salient issues before our assessments. This is to suggest that the majority of participants in our study did not see plagiarism as an unethical behavior, while those that did potentially had more accurate self-assessments.

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# VIEWS ON CURRICULUM CHANGE IN MANAGEMENT EDUCATION: A COMPARATIVE STUDY

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**ABSTRACT**

*Calls, world-wide, for examination of the cost, effectiveness, quality and relevance of higher education have focused attention on what universities offer and how they design and structure their offerings. In Australia Karpin (1995) called for a great degree of industry based relevance in management education and advocated better links with business to achieve this. In the United States a study conducted by Pearce (1999) called for improved use of technologically assisted teaching, globalisation of course content, improved linkage with business and current business practices, and acknowledgement of the qualities needed to make graduates employable. This exploratory paper seeks to examine the process of curriculum design and change within two institutions, and identifies major issues that currently impact upon curriculum decisions in Australia and the United States.*

***Keywords:*** *Curriculum change, academic perceptions, comparative study,*

## PROLOGUE:

The motivation for the writing of this paper stems from a number of experiences encountered while on study leave in the United States during the first half of 2004. During this time I was based within the Marketing and Management Department of the School of Business Administration at the University of Montana. This paper compares academic staff perceptions of the curriculum change and design process at Charles Sturt University (CSU) and the University of Montana (UM).

However, before discussing the processes and perceptions of curriculum change within these institutions it is necessary to explain some terminological differences and establish the nomenclature that will be used throughout this paper. Whilst the usual features of academic administration exist they use the following terminology: School of Business Administration (UM), Faculty of Commerce (CSU); Marketing and Management Department (UM), School of Commerce, Business, etc (CSU); Faculty (UM), Academic Staff (CSU); Staff (UM), Administrative/General Staff (CSU) and University of Montana Catalog, CSU Handbook. This paper will be written using UM terminology. It is also important to note that the title and role of the Dean are the same in both cases, with the exception of the greater external representation and fund-raising role of Deans within the United States; which does not exist in Australia at this time.

## 1. INTRODUCTION

At the beginning of the new millennium the value and economic contribution of education is again under scrutiny. Governments are re-examining their roles and financial contributions (Dawkins, 1988; Karpin, 1995; Industry Commission, 1997; Nelson, 2003). The need to maintain parity with economic competitors has captured the attention of many within the United States (Proenza, 2002:536), and is encouraging both schools and universities to review the structure and content of their educational offerings. The cost of providing quality higher education has drawn considerable attention to issues associated with the quality, availability (i.e. equal access), costs and effectiveness of university programmes (Karpin, 1995; Nelson, 2003). Despite these concerns little attention has been given in the literature to examining the relevance or quality of degree and subject content.

Whilst, within Commonwealth countries such as Australia it is generally accepted, and to some degree expected, that the Faculty, University and Government will provide direction for the design of degree structure and content, within the United States, however, this level of influence would be deemed totally unacceptable. The Faculty members at universities in the United States are perceived to have more independence and freedom in terms of their subject content (i.e. curriculum).

This paper seeks to examine some of the differences between the curriculum design and change processes in Australia and the United States, by examining the approaches used at two institutions: The School of Commerce, part of the Faculty of Commerce, Charles Sturt University and the Department of Management and Marketing, part of the School of Business Administration at The University of Montana. Questionnaires comprised of both quantitative and qualitative questions were used to gather responses on various aspects of curriculum design and change in both institutions. Participant responses have provided some useful insights into the current process of curriculum design and change, and identified major issues that are impacting upon curriculum decisions.

## 2. MAINTAINING A RELEVANT CURRICULUM

Universities have for years been responsible for producing good citizens, well rounded individuals, and the people with the skills and abilities required for today's and tomorrow's organisations; a role that has attracted increased attention from the OECD, who recognise the importance of education for social and economic growth (Davidson, 1986). However, the ability of universities to meet these requirements effectively has been questioned; particularly in relation to business education (Karpin, 1995; Pelton, 1996; Pearce, 1999). Cox and Cooper (1988, as cited in Barry, 1996:53) argued that "There is no evidence that academic learning changes behaviour or develops practical skills such as those required in management". However, Barry (1996:54) expresses the hope that:

> …. the contribution that universities can make is not only to provide training in specific areas, but also to encourage and assist their students to acquire some high level intellectual skills such as independent thought, curiosity, the ability to think logically, the ability to learn and the facility for obtaining and disseminating information.

Despite the many factors influencing management roles and management education the development of higher learning skills, as identified by Barry (1996), is an essential part of the university experience for students studying management and related disciplines. Factors such as economic growth and development, changing managerial needs in the workplace, university policy and structure, business and industry requirements, and in the case of Australia Federal Government policy (Mathews, 1999), have a significant impact but without the higher learning skills students would experience difficulty transferring learning to the workplace.

The many changes that are being experienced by today's businesses make it essential that management qualifications maintain relevancy, in terms of content and delivery, and are seen to be doing so. The two universities considered for this paper adopt different approaches for this, and perceive different factors as having an influence on curriculum design.

## 3. RESEARCH METHOD

Few research studies have examined how the process of curriculum design and change is undertaken within the academic environment, and what the major influences of that change are. The primary purpose of this research is to redress this omission by gathering, interpreting and analysing academic staff perceptions about the process of curriculum design and change and the major influencing factors. Data were collected from academic staff teaching in the management and marketing areas at both Charles Sturt University (CSU) and the University of Montana (UM). Questionnaires comprised of both quantitative and qualitative questions were used; including a number of open-ended questions.

### 3.1 Questionnaire design

The questionnaire was designed based on an analysis of the relevant literature and discussion with academic staff at selected institutions; which resulted in a refined questionnaire – including the incorporation of additional issues and the elimination of others. The final form of the questionnaire consisted of three sections: Section I – consisted of ten quantitative questions using a 7 point Likert scale (using anchors of 1=strongly disagree and 7= strongly agree), that sought perceptions on issues associated with curriculum design and change; Section II – consisted of fourteen open-ended qualitative questions that sought respondents perceptions of the processes involved in degree and subject design; the final section, Section III, requested biographical data from each of the respondents.

**3.2 Survey Sample and response rate**

Questionnaires were sent to 13 academic staff across all levels at three campuses of CSU, and 15 Faculty members at UM; of which 6 and 5 useable questionnaires were returned from each group respectively (a response rate of 46 % for CSU and 33 % for UM). The description of respondents and profiles based on biographical data are presented in Table 1. It was disappointing that in spite of follow-up emails and verbal requests more questionnaires were not returned.

**TABLE 1: BIOGRAPHICAL DATA**

| Biographical data | Charles Sturt University | University of Montana |
|---|---|---|
| *Gender* | | |
| Male | 5 | 2 |
| Female | 1 | 3 |
| *Age Range* | | |
| 25-35 | | 1 |
| 36-45 | 3 | |
| 46-55 | | 3 |
| >55 | 3 | 1 |
| *Years in academic service* | | |
| 0-5 years | 1 | 1 |
| 6-10 years | | |
| 11-15 years | 2 | 1 |
| 16-20 years | 2 | 1 |
| >21 years | 1 | 2 |

However, as can be seen from the data presented in Table 1, responses were received from participants that represented different genders, age ranges, and years of employment in academic roles; therefore being representative of those engaged as academic staff on a full-time basis.

## 4. RESULTS

Table 2 shows the means and standard deviations for participant responses to each question, according to institution. A one-tailed t-test was used to calculate the level of significant difference between responses from each group of participants (Cooper and Schindler, 2003). Significant differences were found in responses to six questions: questions 4, 5, 6, 8, 9 and 10. These questions could logically be grouped into two basic categories. Group 1 (questions 4, 5 and 6) sought participant responses on their views about the degree of economic/ financial, or government (State and Federal) influence on curriculum design and change; Group 2 (questions 8, 9 and 10) examined the extent to which academic staff felt that they had control of curriculum decisions or were required to operate within set university structure and guidelines.

These results, whilst preliminary, were not totally unexpected given the differing environments of the two institutions. The difference between the two publicly funded systems is quite pronounced, and has a flow on effect to other aspects of academic operations and procedures. This can be seen in responses to open-ended questions that sought participants'

UM: They do not provide much in the way of guidelines and have very little impact (Respondent 2).

CSU: The main influence of policy has been in the development of a more competitive environment amongst the tertiary institutions. Reduced funding has meant that the institutions seek funds from other sources. Quality of both inputs and outputs becomes a casualty as numbers become more important to provide support for an elaborate fixed cost bureaucracy and the physical assets. Courses are designed to apply to a niche market; especially at the post graduate level; it could be that theory is manipulated so that it appears to have specific relevance to a specific market group (Respondent 2).

**Table 2: PERCEIVED DRIVERS OF CURRICULUM DESIGN AND CHANGE**

| Drivers of curriculum design and change | Charles Sturt University | | University of Montana | | | |
|---|---|---|---|---|---|---|
| | *Mean* | *Std dev* | *Mean* | *Std dev* | *T-Test* | *Sig Level* |
| 1. Curriculum design and change is primarily driven by economic demand | 5.5 | 1.049 | 4.6 | 1.517 | 1.162 | NS |
| 2. Curriculum design and change is primarily driven by student demand | 4.0 | 1.549 | 4.8 | 1.095 | .8271 | NS |
| 3. Curriculum design and change is primarily driven by business and industry demands | 4.5 | 1.240 | 5.6 | 0.548 | 1.8278 | NS |
| 4. Curriculum design and change is primarily driven by financial concerns | 5.8 | 0.983 | 3.6 | 1.342 | 3.418 | 0.005** |
| 5. The Federal Government plays a significant role in directing curriculum design and change | 6 | 1.095 | 2.8 | 1.643 | 3.869 | 0.005** |
| 6. The State Government plays a significant role in directing curriculum design and change | 4.6 | 0.516 | 2.8 | 1.826 | 2.328 | 0.025* |
| 7. National studies into management skills and the quality of education have a strong impact on the offerings of universities | 4.6 | 1.505 | 5.0 | 0.707 | .0542 | NS |
| 8. The university structure provides strict guidelines within which the Faculty must operate | 6 | 0 | 4.8 | 1.789 | 2.301 | 0.025* |
| 9. Faculty members are primarily responsible for all curriculum decisions | 5.5 | 0.548 | 6.6 | 0.548 | 3.315 | 0.005** |
| 10. Faculty members have adequate opportunity for input into curriculum design and change | 5.5 | 0.548 | 6.6 | 0.548 | 3.315 | 0.005** |

* significant (1-tailed) at p=>0.025; ** significant (1-tailed) at p=>0.005.

views on the influence of Government (State and Federal) in providing guidelines for curriculum directions (questions contained in Group1). Typical comments from participants included:

Likewise questions contained in Group 2, which sought responses on the extent of individual academic control and freedom from restrictions were found to have similarly disparate responses. For example questions seeking information on the level of involvement/direction provided by Deans invoked the following responses:

UM: He can make suggestions/recommendations – but the Faculty does not have to accept these. At one time the dean wanted us to deliver a Healthcare MBA, but it was voted down. (Respondent 5).

CSU: The latest change/review of the degree seemed to arise from the Dean's feeling that it had to be done. The main factor seemed to be manoeuvring the schools to maintain student numbers (Respondent 2).

Questions 1, 2, 3 and 7 were found to have no significant difference between the responses of the two groups. These questions sought participants' views on the extent of influence of various factors, including economic demand, student demand, business and industry demand, and national studies into management skills. Results were inconclusive because participants held similar views about the importance of these factors. A larger sample of respondents might prove more revealing in relation to these questions.

The importance of business and industry links has been stressed by studies examining management education in both Australia (Karpin, 1995) and the United States (Pearce, 1999), and is recognised by academic staff. However, the responses received from participants were mixed in relation to the degree of influence they believed business and industry had over curriculum change with some suggesting that it needs to be increased, as indicated in the following examples:

UM: They do have a strong, but not a decisive influence (Respondent 2).

We do a survey of employers to determine if our students meet their needs/expectations – but this survey is really not used much (Respondent 5).

CSU: Limited. It should be greater, but we have poor mechanisms for industry involvement. There is some influence from professional bodies such as AHRI [Australian Human Resources Institute] especially in our HR programs (Respondent 1).

Notice is taken of the requirements of business in relation to employable graduates; in particular the required generic skills (Respondent 2).

Responses to the other questions in this group solicited a similar degree of disparity, with participants indicating the importance of the factors identified, but also believing that had little real influence on curriculum change at that time.

## 5. CONCLUDING COMMENTS

Although there are many similarities between American and Australian academic systems, there are also significant differences as well; particularly in relation to the anticipated role of Federal and State Government in relation to curriculum change and these difference are exposed in responses to some questions within this study.

Whilst an exploratory study only, the findings encourage further research in relation to curriculum change and policy implementation. Given the small number of responses in both cases further confirming research is necessary.

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**USER PERCEPTIONS OF PROFESSIONAL ACCOUNTING PORTALS**

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## ABSTRACT

*The paper examines the characteristics of Web sites serving the accounting profession. It begins with a review of instruments used to measure the quality of customer service, traces the adaptations made as marketers began using the Web for customer service, and introduces the idea that the professional accounting Web sites are fundamentally different in nature from commercial Web sites. These professional accounting Web sites behave much more like portals, and so assessing their effectiveness requires a different approach. We review important factors in portal design, and provide an assessment of 13 professional accounting Web sites by 201 accounting students. We find that the characteristics of professional accounting Web sites have essentially the same underlying factors as do portals, and offer some areas for further research.*

**Keywords**: *Portals, Internet technology, Professional accounting web sites*

## 1. INTRODUCTION

The Internet seems ubiquitous today, as it is the first stop for many in looking up products and services. If one is discussing students' use of the Internet, the purpose of their searching is probably different than the population as a whole. This has some implications for the accounting profession. As students perform more of their research online, either on the Internet or using online databases, they will also find much of their information about their chosen profession online. The availability of this information on the Internet suggests that, for many accounting students, one of their primary sources of information about the profession, outside the classroom, will be the Web sites of organizations representing the profession (i.e., national professional organizations, state CPA societies) or practicing accountants (CPA firms). If students are obtaining more information about the profession online, it would be a logical step to examine the effectiveness of representative Web sites. This includes considering the information content available, and the usability/functionality of the site.

## 2. LITERATURE REVIEW

As the use of the Internet to market to customers has expanded, a large amount of research has been published on the design features that make a commercial site appealing (Lee, Katerattanakul, and Hong, 2005). There is some research on how to assess quality of customer service in a virtual commercial enterprise. But for developers of nonprofit or professional association Web sites, guidance is very sparse.

There are several instruments available and in use for measuring customer satisfaction with a merchant or service provider. Perhaps the most widely reported is the original SERVQUAL (Parasuraman, Zeithaml, and Berry, 1988). Buttle (1996, p. 8) notes that there have been discussion and application of SERVQUAL in tire retailing, travel and tourism, car servicing, business schools, higher education, hospitality, accounting firms, architectural firms, recreational services, hospitals, banking, airline catering, local government, apparel retailing, and business-to-business channel partners. SERVQUAL focuses on human interaction (customers and employees) in a physical setting. One of its drawbacks is that it does not cover web-based service experiences where there are no physical surroundings and no human interaction.

Two recent studies reflect research to update SERVQUAL to incorporate Web sites into the measurement of the quality of customer service in an organization. Wang and Tang (2003) revised the original SERVQUAL instrument into four dimensions (16 items), called EC-SERVQUAL. These include Reliability, Responsiveness, Assurance, and Empathy. Parasuraman, Zeithaml, and Malhotra (2003) also revised the SERVQUAL instrument. Termed E-S-QUAL, this is a multiple-item scale for assessing electronic service quality. A 22-item scale covers four dimensions (efficiency, fulfillment, system availability, and privacy). This also updates the instrument to include Web sites, but doesn't contemplate additional dimensions of data quality or information content. Perhaps in response to this, Cox and Dale (2002) identified the key quality factors in Web site design and use. Although written primarily for Web site developers, it encompasses much of content of SERVQUAL and adds a good bit more. The conceptual model presented is based on the ease of use, customer confidence, on-line resources, and relationship services. The key quality factors from Cox and Dale capture many of the dimensions which an Internet shopper would experience, and which the shopper would reflect on in evaluating their satisfaction with their visit to a Web site. These instruments do not contemplate one of the large uses of the internet, which is simply seeking information, as opposed to searching for a product.

A recent study by Gounaris and Dimitriadis (2003) is helpful in framing this issue, as it deals with assessing the quality of portals on the Web. The focus of the study is "100 percent information content" and "100 percent Web-based" service activity, the business-to-customers portals… (p. 529). This study adopts the approach of looking at what it takes to make a portal successful. Portals need to generate repeat traffic to remain viable. Portals by their nature are not e-commerce sites selling products but they are e-commerce sites offering information and links to sites a user wants to visit. This has an effect on portals' interaction with their customers, as Gounaris and Dimitriadis (2003) point out (p. 531): there are no physical surroundings; the customer participates more in the development / provision of the service; the customer is more involved; and the portal has no control over the compatibility of the site's technology with that of the customer. Since portals are actually the gateway to the types of services noted above, this suggests that they are information providers (as opposed to suppliers of products) and therefore a different form of evaluation instrument will be required to probe for the factors which make for better customer satisfaction.

## 3. RESEARCH DESIGN

In developing our instrument, we were primarily interested in how accounting students viewed the "professional accounting Web sites". We were interested to see how three groups of Web sites that serve accountants would be viewed. The CPA society web sites we examined were those of five east coast organizations. These were selected because many of the students involved hail from those states; consequently this is not a random sample of society web sites. The national accounting organizations were selected to offer as many viewpoints and constituencies as possible. The Big Four accounting firms were selected in the belief that they might have some of the best-developed Web sites to represent the practitioner community. Table 1 lists the 13 different Web sites reviewed, by type of organization.

**TABLE 1**
**ACCOUNTING WEB SITES**

| Type of Organization | Organization Name |
|---|---|
| State CPA Societies | · Greater Washington Society of CPAs<br>· Maryland Association of CPAs, Inc.<br>· New Jersey Society of CPAs<br>· New York State Society of CPAs<br>· Virginia Society of CPAs |
| National Organizations | · American Institute of CPAs<br>· Institute of Management Accountants<br>· American Women's Society of CPAs<br>· National Association of Black Accountants |
| Big Four Firms | · PriceWaterhouseCoopers<br>· Deloitte Touche Tohmatsu<br>· Ernst & Young<br>· KPMG Peat Marwick |

The survey is organized into four areas. Content presentation and format questions (six variables, with "yes", "no", or "N/A" as possible responses) are about consistency of the site's layout, whether it has its own search engine, and the use of graphics or audio clips. Accessibility questions (three variables) look at how quickly a site loads, currency (dead links on the page), and anonymity (whether the student had to register and or obtain a password to access the site). The homepage category (four variables) considers a site's design, whether it provides a link expressly for students, and if it provides links to other related websites. Satisfaction questions (four questions on a five point Likert scale) are aimed at whether any of these sites caught an accounting student's attention. These include increasing one's interest in accounting (or not), gaining useful information about accounting from the site, and whether they would recommend it to a friend.

The first six questions regarding content presentation and format offered "yes", "no", or "N/A" (not applicable) as possible responses. These were coded as yes = 1, and no = 0. N/A responses were omitted. Questions 7, 8, and 9 on accessibility use the same responses and coding as the first six. Questions 10 – 13 on homepage items are set up the same as earlier questions. The opinion questions 14-17 offered a five-point Likert response set with "strongly disagree" coded as a 1, up through "strongly agree" equal to 5. Because they were negatively phrased, questions 8, 9, and 15 were recoded to conform to the direction of the other responses.

This was a course assignment for 201 students during the spring 2004 semester. These students were either sophomores (all majors) taking introductory accounting classes, or juniors who were all accounting majors. Sophomores made up 150 of the participants (71 males and 79 females; the juniors included 16 males and 35 females, for the remaining 51 participants.

Each student was given the list of Web sites (URL addresses) for the 13 accounting organizations selected and 13 copies of the questionnaire. While most participants completed all 13 site reviews, some did not. The maximum possible number of observations was 2,613 (201 students times 13 sites). However the actual number of usable questionnaires received varied from 2,436 (for the opinion questions) to 2,093 (do the graphics improve the site). This represents participation rates of 80% at the minimum.

## 4. RESULTS

SPSS was used to conduct Principal Components Factor Analysis on the data (2,436 assessments) to try to determine what underlying factors might have influenced users' reactions to their Web site visits. Table 2 below displays the six-factor solution, explaining 59.68% of the total variance. The first factor (F1), explaining 17.86% of the variance, shows that the information benefit derived from the Web site is the most important feature. While the questions in our survey differ from those of Gounaris and Dimitriadis, the underlying factor is information content. Klein (2001) would appear to support this, as she found that Internet sources were rated higher in terms of the amount of available data.

Table 2 gives the percentage of total variance explained by each of the factors. While the six factor solution accounts for 59.68% of total variance, factors 2-6 collectively account for 41.82% of the total variance, .The second factor (F2) explains 12.6% of the total variance. The loadings here, for the quality of the graphics and the visual appeal, suggest that this audience is quite attuned to graphical display, and this feature might be important to Web site designers. The loadings for F3, including student links and links to other useful Web sites, are inversely related to the type of organization hosting the site. This would seem to indicate that in considering a portal definition for these sites, the links onward would be just as important as in a commercial portal. The fourth factor (F4) might be seen as reflective of the technology employed at the Web site, as well as the user's technology. This would be affected by connection speed, whether the connection was dial-up or by broadband, but also by design features which impede download speed. Web sites with large amounts of graphical content take longer to load. Web site designers might consider keeping the home page relatively clean, and distributing the graphics across several pages. This factor also includes loadings for connections to nonworking links, as well as whether or not one had to register to use the site. These also are related to the maintenance of the technology. Also, one way to alleviate the registration is to make the home page available to all, but to require (if needed) registration or login for “premium content.” The fifth factor (F5) includes loadings for the consistent formatting of the pages, and for provision of a site map or similar indicator of contents. Again, this would appear to be an integral component of design and functionality, as it would increase the usefulness of a site, and reduce a user’s time to see what contents were available. The last factor (F6) contains a loading for a site’s use of an internal search engine. This loading seems to reflect an increased functionality that users appreciate. The results obtained suggest that Web sites representing the accounting profession have underlying factors similar to those of commercially oriented portals. Evaluation of their customer service should include the information benefit provided, as well as the variables which influence the user’s interactive experience.

**TABLE 2**
**PRINCIPAL COMPONENTS FACTOR ANALYSIS**

| Factors | Variables-Factor Analysis | Loadings |
|---|---|---|
| F1. Information benefit (17.855% of variance). | There is enough information to make this site worth visiting | 0.519 |
| | Information is easy to find | 0.458 |
| | This site made me more interested in accounting as a possible career | 0.854 |
| | This site gave me useful information about an accounting career | 0.787 |
| | I would recommend this site to a friend | 0.807 |
| | This site did not cause me to become more interested in accounting as a possible career | -0.734 |
| F2. Design graphics. (12.627% of variance). | Is the quality of graphic images good | 0.832 |
| | Do the graphics, sound clips,etc. significantly improve the site | 0.844 |
| | Is the homepage attractive, with strong eye appeal | 0.781 |
| F3. Links (8.619% of variance). | Is there a "Student" link (or similar, like "Tomorrow's CPA") | 0.644 |
| | Are there links to other useful Web sites | 0.568 |
| | Type of organization | -0.743 |
| F4. Roadblocks (7.294% of variance). | Does the site load quickly | 0.619 |
| | Do any links lead to a dead end | 0.724 |
| | Are you required to enter / register username / password | 0.517 |
| F5. Consistency. (6.646 % of variance) | The site uses the same basic format consistently | 0.692 |
| | Is there a site map, or other clear indication of the site contents | 0.549 |
| F6. Search engine (6.643% of variance). | Does the site have its own search engine | 0.892 |

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 7 iterations.

**5. CONCLUSION**

The Internet is the first stop for many in finding out about products, services and information. As accounting students perform more of their research online, they will also find out much about their profession from Web sites of organizations that represent the profession. In this study, 13 different Accounting Web sites, were examined by 201 undergraduate accounting students and judged on content presentation and format, accessibility, currency and anonymity. These Accounting Web sites performed as portals to the Accounting profession. As an information provider, a principal component analysis of the results determined that approximately 60% of the total variance could be explained by the following factors: information benefit, design graphics, links, roadblocks, consistency and the existence of a search engine.

While this paper provides a basis for assessing a category of Internet portals, it would be interesting to examine organizations, which have both print publications and Internet sites, and the perceived differences in reputation, data quality, accuracy and objectiveness. Do these Web sites help the Accounting profession attract IT proficient students? Is a presence on the Internet useful for accounting students? Is a student's relationship with the profession strengthened by visiting the Web sites of accounting organizations?

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# A REVIEW OF STATEMENT OF FINANCIAL ACCOUNTING STANDARDS NO. 156, ACCOUNTING FOR SERVICING OF FINANCIAL ASSETS

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## ABSTRACT

*FASB continues the development of reporting for the servicing of financial assets with new Statement No. 156, Accounting for the Servicing of Financial Assets (Financial Accounting Standards Board, 2006). The new statement, issued in March 2006, amends Statement No. 140, Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities, with respect to the accounting for separately recognized servicing assets and servicing liabilities. Financial institutions are the largest affected constituency, as the Statement deals specifically with reporting for the servicing assets and servicing liabilities related to transfers of financial assets, including mortgage portfolios.*

## 1. INTRODUCTION

FASB identified three different approaches used to manage the risks associated with servicing financial assets in developing the new rules.

### 1.1 Available-for-sale securities

The use of available-for-sale securities, which may be sold to offset declines in value of servicing assets and servicing liabilities. One possible issue is, for existing servicing assets and servicing liabilities, if the servicer elects fair value measurement, those available for sale securities would be measured at fair value in other comprehensive income. The related servicing asset or servicing liability would be measured at fair value, but in earnings.

### 1.2 Designation as a service contract

The treatment of servicing assets and servicing liabilities to be service contract, but not financial instruments; and

### 1.3 Hedge accounting

The use of financial instruments such as derivatives to achieve hedge accounting, and so reduce or eliminate income statement volatility. Derivatives are valued at fair value under Statement 133; servicing assets and liabilities, following Statement 140, are measured at the lower of carrying amount or market (LOCOM). The application of the two rules generates asymmetrical earnings, inducing volatility in earnings for some constituents, who wanted to be able to measure servicing assets and servicing liabilities at fair value to achieve an income statement similar to the application of hedge accounting, without meeting the hedge effectiveness requirements of Statement 133. The Board observed a short supply of over-the-counter derivative instruments whose changes in fair value closely track the changes in fair value of servicing assets and servicing liabilities makes it difficult for entities that acquire derivative instruments for the purpose of offsetting changes in fair value of servicing assets and servicing liabilities to comply with the hedge effectiveness requirements in FASB Statement No. 133, *Accounting for Derivative Instruments and Hedging Activities.*

The first two categories above might suffer increased earnings volatility under fair value measurements, so FASB justifies giving them the choice of FV with changes reflected in earnings or the amortization and impairment requirements of 140 for subsequent measurement.

## 2. SUMMARY OF CHANGES

Statement No. 156 provides these summarized changes.

### 2.1 Recognition

Every time an entity contracts to service a financial asset, it must recognize a servicing asset or a servicing liability. A servicing asset is a contract under which the estimated future revenues (from servicing fees, late charges and other ancillary revenues (i.e., payoff statements) are expected to more than adequately compensate the entity for its services. A servicing liability is a contract under which estimated future revenues are not expected to adequately compensate the entity for its services. No servicing asset or liability is to be recognized if the contractual compensation is just adequate to compensate the entity for its services. Changing circumstances may convert a servicing asset into a servicing liability, and vice versa.

**2.2 Initial measurement**
Initial measurement is to be by fair value, if practicable, for all separately recognized servicing assets and servicing liabilities. An entity must recognize gains and losses on the sale, in earnings.

**2.3 Choice of methods, and definition of classes**
Separately recognized servicing assets and servicing liabilities shall be separated into classes. The definition of a class remains from Statement 140: “Each class of servicing rights will include all of an entity’s rights to service one major financial asset type (for example, mortgage loans, credit card receivables, or automobile loans).” Entities are required to identify classes based on market inputs to determine fair values, or its risk management methods, or both. For mortgage bankers, this may result in restratification of their classes. Under 140, risk strata could be based on any predominant risk characteristic, i.e., date of origination or geographic location. The new rule requires that restratification be based on major asset type (i.e., home loan, credit card, auto loan). This will be treated as a change in application of an accounting principle; the effect as of the initial application of 156 to be reported as part of the cumulative-effect-type adjustment for the transition adjustments.

**2.4 Subsequent measurement periods**
Subsequent measurement periods may use either the amortization method or the fair value method, and entities can choose for each class of servicing assets or servicing liabilities.
- Amortization method: This is the method presently required by Statement 140. An entity may amortize servicing assets or servicing liabilities in proportion to and over the period of estimated net servicing income (if servicing revenue exceeds servicing costs) or net servicing loss (if servicing costs exceed servicing revenues), and assess servicing assets or servicing liabilities for impairment or increased obligation based on fair value at each reporting date.
- Fair value measurement method. Alternatively, an entity may measure servicing assets or servicing liabilities at fair value at each reporting date and report changes in fair value of servicing assets or servicing liabilities in earnings in the period in which the changes occur.

**2.5 One time election**
The choice to use fair value measurement method for a given class of servicing assets and servicing liabilities is irrevocable. The election is available at the beginning of any fiscal year subsequent to adoption of the Statement. Changes in fair value are reported in earnings. If it is not practicable to initially use fair value to measure assets, the transferor shall record them at zero, and use the amortization method. For liabilities in the same situation, the transferor shall recognize no gain on the transaction, and record liabilities at the greater of (a) the excess of fair value obtained minus the fair value of liabilities incurred over the sum of the carrying value of the assets transferred; or (b) The amount that would be recognized in accordance with FASB Statement No. 5, Accounting for Contingencies and interpreted by FASB Interpretation No. 14, Reasonable Estimation of the Amount of a Loss.

**2.6 New Disclosures and Presentations**
Additional disclosures and separate presentation are required for each of the following:
- For any transaction or agreement involving collateral;
- In-substance defeasances of debt;
- Restrictions on assets set aside to meet the payments on specific obligations;
- For all servicing assets and servicing liabilities: the basis for determining classes, a description of inherent risks of servicing, identification of any instruments used to mitigate risk, the amounts of contractually specified fees and where they are reported in the income statement.

- Lastly, comply with the new requirement from FASB Statement No. 154, Accounting Changes and Error Corrections, to disclose the effect of the change in accounting principle on income from continuing operations.

**2.7 Effective Date**

For fiscal years beginning after September 15, 2006. Early adoption permitted as long as the entity has not issued financial statements, including interim financials, for any part of the fiscal year. The effective dates and transition are the same as for Statement 155, Accounting for Certain Hybrid Financial Instruments.

**TABLE 1. MAJOR CHANGES SINCE LAST STANDARD**

| Issue | Old Standard (SFAS 140) | New Standard (SFAS 156) |
|---|---|---|
| Definition of classes | Each class of servicing rights will include all of an entity's rights to service one major financial asset type (for example, mortgage loans, credit card receivables, or automobile loans) | Same |
| Restratification: aggregation of servcing rights for a "portfolio of similar assets" | Risk strata could be based on any predominant risk characteristic, i.e., date of origination or geographic location | Restratification based on major asset type (i.e., home loan, credit card, auto loan) and will be a change in application of an accounting principle; the effect as of the initial application of 156 to be reported as part of the cumulative-effect-type adjustment for the transition adjustments |
| Subsequent measurement & choice of method | Entities will be permitted to choose either fair value or the lower-of-carrying-amount-or-market (LOCOM) as the subsequent measurement attribute for each class of separately recognized servicing rights | Fair value (preferred) or amortization |
| One-time election | N/A | Irrevocable |
| Adoption | N/A | For fiscal years beginning after September 15, 2006 (the same as for Statement 155) |

**REFERENCE:**

Financial Accounting Standards Board. Statement of Financial Accounting Standards No. 156, Accounting for Servicing of Financial Assets. Financial Accounting Standards Board. Norwalk, CT., 2006.

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# INDIGENOUS INNOVATION FRAMEWORK FOR RAISING CHINA'S NATIONAL INNOVATION CAPACITY

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## ABSTRACT

*Innovation having become the most important source of national competitive advantage, we look into the prospects of less developed and developing nations to join the ranks of advanced industrialized economies in the world. Taking the case of China, we trace the background, progress and present state of its national innovation system. At the core of China's new long and medium term Science and Technology Plan (2006-2020) is Indigenous innovation. We have looked into what entails indigenous innovation and how can it be placed within a national context? We have attempted to build a conceptual framework for an environment that is conducive to Indigenous innovation and have shown that indigenous innovation has to be based on a nation's core competitiveness and core technologies. It, then, has to be built up in a learning environment based on internal R&D and external alliances. The proposed framework stresses that domestic firms should prioritize building innovation capability from the very beginning and make effective use of technology transfer, diffusion and spillovers. We show that the national innovation capacity is based on a nation's absorptive capacity, the govt. policy infrastructure and its entrepreneur's ambitions and creativity. We also suggest that such a framework can help developing countries build up their national indigenous innovation capacity and make them catch up faster with the advanced economies.*

***Keywords:*** *National Innovation Capacity, Indigenous Innovation*

## 1. INTRODUCTION

Innovation has become the most important source of competitive advantage in advanced economies, and building innovative capacity has a strong relationship to a country's overall competitiveness and level of prosperity (Furman, Porter, Stern, 2002). The Innovate America Report (2005) of the US Council on Competitiveness declares innovation as the societal and economic manifestation of hope and the principal driver of economic growth, standard of living and national competitive advantage in the 21st Century. Besides the United States, the advanced industrial economies of Europe and Asia have also made innovation a top priority to secure their success in the global economy. Developing economies such as India, Brazil and Russia are also committing substantial resources to move up the innovation value chain and are becoming important players in the marketplace. China has a bright prospect, some visible advantages, but also some underlying weaknesses. Innovation Capacity having become a determinant of competitive strength, the question is how to build up China's National Innovation capacity?

The world economic forum describes three stages of National development i.e. "Factor-driven stage" in which firms compete in prices, taking advantage of cheap factors e.g., India, China, Ukraine; "Efficiency-driven stage" where efficient production practices increase productivity e.g., Poland, Brazil, Mexico and; "Innovation-driven stage in which economies produce innovative products using sophisticated production methods. We look into the development of China's National Innovation system and attempt to answer the question if it's possible for it to attain the efficiency and innovation-driven stages simultaneously and how?

The process of innovation entails learning about how to transform technologies and access markets, and what is learned in one innovative activity can be subsequently applied to other innovative activities.(Lazonick, 2004) . This poses a profound problem of cumulative character of the process of economic development for less developed nations and has been rigorously debated in literature. Hobday (1995) argued that east Asian newly industrialized economies follow the linear model that goes from cheap labor assembling, to the second stage of original equipment manufacturing (OEM), then to original design manufacturing (ODM), and finally to original brand-name manufacturing (OBM). Similarly, the bottom-up model (Leonard -Barton, 1995) has been used to describe the import substitution, which starts from import kits, progresses to localization of parts and components, then to product redesign, and finally to the stage of product design. Is innovation capability really important for latecomers in economic development or should late-industrialized countries wait until they are at the late-stages of their catching-up to develop their innovation capability? The linear models simply imply that innovation capability will not play an essential role until the later stages of catching-up. However, the fact that every country is a beginner for the newly emerging techno-economic paradigm (Schumpeter, 1942) implies that latecomers can catch up with more advanced countries by leapfrogging or direct innovation at the technological frontier (Perez, 1985) .

Lu Qiwen (2000) looked into the development models of developing countries to see if the less developed nations could accumulate innovative capability to embark on a cumulative development path that would eventually enable them to join the ranks of the more advanced nations. Was it necessary for them to follow the learning path that the advanced economies took, and hence forever lag behind, or, by choosing a different path, they could catch up and perhaps even forge ahead; could they engage, as have all of the advanced economies at certain times and in certain sectors, in "indigenous innovation", a process of making use of technologies transferred from the advanced economies to develop superior technologies at home. (Lu, 2000, Lazonick, 2004).

This paper attempts to review and analyze China's progress in developing its innovation systems in the light of the above arguments. We look into China's National Innovation system, its background, development and the present state and attempt to build a framework for "Indigenous Innovation" which has recently been defined as the core of the New National Long and Medium Term Plan for Science and Technology Development (2006-2020)[1]. We begin by discussing the progress path of China's National Innovation System, discuss the problems in the earlier approaches and then present a brief outline of the S&T plan (2006-2020). We then look into what indigenous innovation entails and build up a conceptual model for promoting an environment that is conducive to Indigenous innovation in China.

## 2. CHINA'S NATIONAL INNOVATION SYSTEM

The Chinese development model was always determined by the political situation and until very recently the economy was closed with no consideration for International competitiveness. Innovation was practically inexistent. This started to change in the last decade, however, the Chinese innovation system can still be considered to be at the infant stage. While China does not have any innovation specific policies, many policies implemented by the Chinese government are closely related to innovation, or have themes related to innovation. (Trend Chart-2005). Since World War II, the Chinese Innovation System, based on the Russian model, had a vertical structure with autonomous and isolated actors lacking horizontal cooperation. S&T activities were generated in Public Research Institutes (PRIs), while production activities were undertaken exclusively by State Owned Enterprises (SOEs) and the two functions were completely separated (Lan Xue, 1997). Over the last two decades the S&T system evolved into a Chinese version of Western models, with some distinctive characteristics (Trend Chart 2005).

The present National Innovation System of China is unique in that it is not only to build up a linking mechanism adaptive to the socialist market economy, but also to upgrade the country's innovation capacity rapidly and to establish a number of S&T innovation bases that are internationally competitive within a period as short as possible. All major innovation related policies and measures originate from the government with the Ministry of Science and Technology playing a leading role and focus on R&D and S&T, generally aiming at establishing an advanced R&D base in key areas, facilitating high tech development, technology transfer and diffusion of research into the economy The Chinese government has introduced initiatives to facilitate interactions among the innovation players and also incentive systems for both science and industry to improve their innovation performance.

China's capital markets being immature, make it difficult to collect sufficient R&D funds from the private sector, and so force the government to play a pivotal role in financing R&D activities. However, as part of the National Innovation System reform , investment from government has been reduced to some extent as an incentive for research institutes to satisfy enterprises.

### 2.1 Problem Areas in the Innovation System

China's main problems in the National Innovation Systems originate from the separation of research and industry until recently, which left the private sector with little technological and innovation capacity. Presently, a significant part of China's NIS are the public-private mixed ownership enterprises that are limited to being in the receiving end of policies and measures implemented by the Chinese government. (Trend Chart 2005) and most organizations focus exclusively on the function and mission assigned by the central government (Pao , Hsin Yu, 2004) . The Chinese model still maintains a strong centrally planned and controlled policy with no evidence on a policy cycle based on evaluation and re-launching, but rather on a top down, long term oriented style of governance (Trend Chart 2005). China's enterprises have invested in importing technology more than in developing their own R&D capabilities. Innovation is improving but in selected areas only and at a slow pace.

China has had an excellent growth performance in recent years but continues to suffer from institutional weaknesses which, unless addressed, are likely to slow down its ascension to the top tier of the most competitive economies in the world. (World Economic Forum's Global Competitiveness Report 2005 ) . The present challenge for China has been one of insight on the nature of global innovation and how well it can design its innovation polices to sustain a long-term rise.

**2.2 National Long and Medium Term Plan for Science and Technology Development (2006-2020)**
From June 2003, the State (National) Steering Committee of S&T and Education had been leading in designing and developing an outline document "2006-2020 Chinese National Science and Technology Development Plan". Core of this new long term National (2006-2020) plan is to enhance China's indigenous innovation-capability and to rely on innovation as the principal driving force for development in the coming decades. The plan emphasizes facilitating coherent and balanced development of near- and long-term science and technology; integrating science-and-technology policy with economic policy ; associating S&T innovation with institutional innovation; and integrating indigenous innovation and international cooperation to form a coherent strategy (Shang Yong, 2005).

To build up the innovation capacity, the plan stresses focus on raising capabilities in absorbing and improving imported technology; capabilities in integrating existing and emerging technologies and capabilities to produce original invention through basic research and new inventions to produce new IPRs. The overarching goal of the plan is to make China an innovative nation by 2020, implying that the quality of China's development and competitiveness be elevated to a new and higher level, and that the gaps with current innovative-nations (e.g., the United States, Japan, and some EU countries) be narrowed on a number of innovation indicators. Indigenous innovation is to become a main source of advanced technologies, and reliance on foreign technologies is to be reduced.

## 3. INDIGENOUS INNOVATION

The new policy clearly focuses on indigenous innovation as the new development model for China. We now look at what does indigenous innovation entail and how can such a process be put in place within China's national environment. The concept of indigenous innovation stresses focus on the system's (country, industry or company) predominant core technologies and core products to improve its competitive ability. (Chen Jin, 2005). Internal technology breakthroughs and integration of core market leadership and intellectual capital make possible the systemic development of technology, while extricating dependency on foreign technologies brings forth independent growth and benefits.

Peilei Fan (2006) studied the development history of China's telecom-equipment industry and reported that innovation capability and self developed technologies are the key to leading domestic firms in catching up with the multinational corporations. She also reported that leading domestic firms mainly depended on in-house R&D development supplemented with external alliances to build their innovation capability.

Jochen, Peter, Matija (2003) studied external alliances and the host country's absorptive capacity and reported that technology adoption depended critically on local absorptive capacity. A nation's absorptive capacity refers to the existence and the quality of complementary assets necessary to employ external technology productively. Technology transfer refers to a cross-border flow, while the diffusion of technology takes place within a country. Spillovers materialize when the owner of a technology is unable to internalize the full value of the benefits associated with that technology. In other words, spillovers are evident when local firms copy technology from an MNC affiliate, or become more efficient or innovative due to the rise in competition resulting from the entry of superior foreign firms (Blomstrom and Kokko 1998). (Ozawa 1992; Narula and Dunning 2000) argued that the relative development of the host economy positively relates to the kind and complexity of the inward direct investment it attracts while Lall (1993) reported that the relationship between FDI and indigenous technological development is not straightforward and so technology transfer and local capability building may be both complementary and competitive.

Birkinshaw and Morrison (1995) suggested that intra-firm technology flows depend on the entrepreneurial ambition and capability of the subsidiary. It has also been shown that the extent of diffusion among unrelated firms, and the width and depth of spillovers, also interact with the business environment in the host country. In sum, from both macro and micro perspectives, a high level of local competence raises absorptive capacity, which in turn encourages and builds up indigenous innovation capability.

## 4. PROPOSED FRAMEWORK

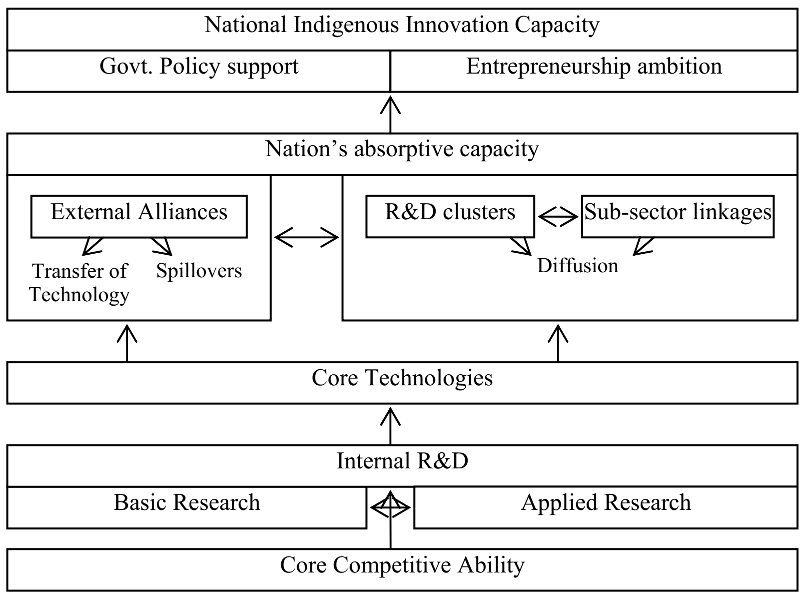


**FIGURE 1: FRAMEWORK FOR RAISING NATIONAL INDIGENOUS INNOVATION CAPACITY**

We attempt to conceptualize a framework for a system that is conducive to indigenous innovation for raising National Innovation Capacity in China. The proposed framework stresses focus on national core competitive abilities and strength to develop and employ core technologies. As Jefferson (2004) explained this would mean R&D focused on exploiting China's underlying advantage that entails a focus on labor-using and capital and energy-saving technologies. Furthermore, the framework stresses that domestic firms should prioritize building innovation capability from the very beginning and suggests that domestic firms should focus on in-house R&D development to build their innovation capability, supplemented with external alliances. How much the nation can benefit from these external alliances largely depends on its national absorptive capacity. Progress can depend on the effectiveness of transfer of technology, diffusion of technology and spillovers. Other factors effecting building up a strong indigenous R&D base include clustering of R&D functions, and sub-sector linkages. Clustering of the R&D functions of the domestic firms can create a network effect for innovation, and sub-sector linkages can assist the process of catching up through specialization and diversification.

The government can play a positive role in guiding and helping domestic firms to accumulate the innovation capabilities as well as providing a suitable policy infrastructure that is conducive to indigenous innovation. Another important factor is the national level of entrepreneurship ambition and creativity which can help the late-developing countries to catch up with the advanced economies and maybe take over.

## 5. DISCUSSION

As is evident from the discussion on China's National Innovation System , the Chinese govt. is playing an active role in policy formulation for facilitating and encouraging innovation, as well as offering incentives to build up indigenous innovation . Market- based economic reforms in the past decades have opened up Chinese markets, and as a result, many U.S. and European firms, often in alliances with Chinese partners, now are developing new products in China. As EC Trend Chart report (2005) confirms , China has been the most attractive host for inward R&D investments in the last five years and major multinationals like Microsoft, Oracle, Motorola, Siemens, IBM and Intel are opening research labs in the country trying to profit from the cheap but very effective researchers resulting in China's growing R&D intensity. What , however, needs to be monitored and improved is the national absorptive capacity, so that learning from these external alliances can be enhanced for further developing indigenous technology This translates into fostering a learning environment that encourages technological learning and creativity resulting in upgrading national competences over time.

For building a self-sustaining economy that is competitive worldwide, and to break out of the linear pattern which forces less developed nations to lag behind for a very long time, the way to go is indigenous innovation. Developing nations like China can raise their national indigenous innovation capacity by building the innovation base on top of their core competitive abilities and core technologies , drawing upon the provisions of their S&T infrastructure for a strong internal R&D system based on basic and applied research , and also absorbing technology from abroad and integrating foreign technology into their indigenous innovation strategies.

## 6. CONCLUSIONS

We have looked into China's prospects of joining the ranks of advanced industrialized countries. Innovation being the most important factor determining national competitiveness, we have addressed how China's National Innovation capacity can be raised. We have traced the background and present state of China's National Innovation System and presented a conceptual framework for an environment that is conducive to indigenous innovation. We have shown how core competitiveness and core technologies can be built up in a learning environment based on internal R&D and external alliances. We have shown how the national innovation capacity is linked to a nation's absorptive capacity, the govt. policy infrastructure and its entrepreneur's ambitions and creativity.

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# ONLINE DISPUTE RESOLUTION POLICY IN CHINA

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## ABSTRACT

*The development of China's economy continues to be influenced by globalization, momentum of informatization and international trade after China's accession to the WTO on 11 December 2001. The increasing use of online transactions has led users to wish for solving disputes online. With the support of information and communication technology, it is possible to create online dispute resolution or online arbitration. Few studies have been carried out to investigate the feasibility of online dispute resolution policy in China. The current study aims to compare and analyze the policies and practices in online dispute resolution or arbitration in China and outside China and focuses on three areas: free flow of information, interoperability, disclosure and impartiality. Findings suggest that China should revisit those policies in which some promote the use of the Internet while others restrict it, and decides the direction forward. Collaboration with other countries could enhance the interoperability of Chinese rules, regulations and policies in online dispute resolution. A need for detailed procedures and guidelines in implementing the provisions in the China Internet Domain Name Regulations, the CNNIC Domain Name Dispute Resolution Policy and the Rules for CNNIC Domain Name Dispute Resolution Policy is called for under the doctrine "Justice should not only be done but should be manifestly seen to be done". Confidence and ethical standards of parties concerned have been identified as the two key factors in online dispute resolution in China.*

***Keywords:*** *online dispute resolution, online arbitration, free flow of information, interoperability, disclosure, impartiality, China.*

## 1. E-COMMERCE AND ONLINE DISPUTE RESOLUTION

Globalization is widely viewed as one of the most powerful forces in shaping the modern world and a key notion explaining the transition of the human society into the third millennium (Waters, 1995). Langhorne refers to globalizations as "the latest stage in a long accumulation of technological advance which has given human beings the ability to conduct their affairs across the world without reference to nationality, government authority, time of day or physical environment." (Langhorne, 2001). Tools in information and communication technology (ICT) such as electronic mail, message posting, electronic discussion groups, web-based real-time conferencing, and videoconferencing have made it possible for people to virtually communicate asynchronously and synchronously (Wahab, 2004) and more transactions in the business community have been created through the use of ICT. Those who have encountered disputes in online transactions would like to solve their disputes online and have called for establishing effective online dispute resolution or online arbitration as one of the alternative dispute resolutions. Online dispute resolution mechanisms are made possible as information technology and elements of traditional dispute resolution have merged to create a new efficient, cost effective, flexible, swift and specially tailored mechanism that matches the fabric of e-commerce (Wahab, 2004). Although China is one of the countries who inevitably join the band-wagon of globalization as well as e-commerce, few studies have been carried out to examine the feasibility of online dispute resolution in China. Therefore this paper will fill this gap by comparing and analyzing the policies and practices of online dispute resolution or arbitration in China with some international practices and policies in online dispute resolution. The Recommended Best Practices for Online Dispute Resolution Service Providers published by the American Bar Association Electronic Commerce (E-commerce) and Alternative Dispute Resolution (ADR) Task Force (American Bar Association E-Commerce and ADR Task Force, 2006) are adopted in this study. The areas which are analyzed are free flow of information, interoperability, disclosure and impartiality in online dispute resolution.

## 2. TREND OF INFORMATIZATION IN CHINA

A survey conducted by the China Internet Development Research Center under the Chinese Academy of Social Sciences revealed that Chinese consumers made more online shopping than average consumers did in the Asian-Pacific region in 2005. The results showed that 71.3 percent of Chinese netizens have experienced online shopping while the average rate in the Asian-Pacific region was 70 percent. Online transaction in China has also soared 158 percent from 350 billion yuan in 2004 to 553.1 billion yuan in 2005 (People's Daily Online, 2006).

In China, more than 60 million items are available online to 22 million B2C and C2C consumers. While books, digital products, computers and mobile phones remain top sellers, products for sports, education, office work, and household necessities have also gained increasing popularity since 2005, showing consumers' growing interest in new varieties of goods. Only 4.7 percent of netizens who responded to the survey said they were not ready to try online shopping, implying that "more than 95 percent of Chinese netizens may become consumers of e-commerce in the future" as stated in the report. However, online shoppers are concerned about the quality of online goods and after-sales service. In Beijing, for example, the local consumers' association has handled more online-shopping related complaints in October 2005 than in the same month the year before (People's Daily Online, 2006).

Evidence shows that China is quickly embracing information and communication technology including the Internet and the trend of informatization in the country is growing fast. According to the 16th Statistical Survey Report on the Internet Development in China, China has 103.3 million Internet users; 45.6 million computer hosts and 622,534 domain names registered under .cn in July 2005 (China Internet Network Information Center, 2005). The domain names registered under .cn has increased to 1,100,480 as at 31 January 2006 (China Internet Network Information Center, 2006). The accumulated growth among different information and communication technology areas between the period of January 2002 and July 2005 is also remarkable: 206% in Internet users, 263% in computer hosts and 388% in .cn domain names (China Internet Network Information Center, 2002).

Demographic statistics show that China has a relatively young Internet population. The term “Internet user” is defined as any Chinese citizen who uses the Internet at least one hour per week, according to the China Internet Network Information Center (CNNIC). A survey report conducted in July 2005 revealed that more than half of the Internet users in China (55.1%) are aged between 18 and 30. The figure is comprised of two age groups: 18-24 (with 37.7%) and 25-30 (with 17.4%). The continuous growth of China’s Internet population, i.e. 103.3 million has remained strong and consistent in recent years and constitutes an excellent platform for expanding e-commerce in the country.

## 3. INITIATIVES IN ONLINE ARBITRATION OUTSIDE CHINA

One of the active online dispute resolution service Providers of online settlement processes for cybersquatting is the World Intellectual Property Organization (WIPO) who keeps a global online Arbitration system in place (Turner, 2000). “The Arbitration service, which enables companies to avoid costly lawsuits, aims to tackle obvious cases of people registering domain names in which they have no rights or legitimate interests …”. Since the launch of such service, the caseload has doubled in less than a month (Business This Week, 2000).

The American Bar Association Task Force on E-commerce and Alternative Dispute Resolution was designated by the American Bar Association (American Bar Association, 2006) to propose protocols, workable guidelines and standards that can be implemented by parties to online transactions and by online dispute resolution providers. The Task Force issued the Recommended Best Practices for Online Dispute Resolution Service Providers.

The Transatlantic Consumer Dialogue (TACD) is a forum of US and EU consumer organizations which develops and agrees joint consumer policy recommendations to the US government and European Union to promote consumer interests in EU and US policy making. The TACD was launched at the end of the inaugural meeting which took place in Washington and gathered more than 60 consumer representatives from the US and the EU in September 1998. TACD issued a policy statement on the “Alternative Dispute Resolution in the Context of Electronic Commerce” in 2000.

Finally, a group of multinational enterprises i.e. Chunghwa Telecom, Deutsche Bank, France Telecom, Fujitsu Ltd., Hitachi Ltd., Hewlett-Packard, Institute for Information Industry (III), Information-technology Promotion Agency, Japan (IPA), KT Corporation, Matsushita Electric Industrial Co., Ltd., Multimedia Development Corporation, NEC Corporation, Nihon Unisys, Nomura Research Institute, NTT DATA Corporation, Siemens AG, Sumerian Networks, Telefónica S.A., TEPCO, Toshiba Corporation and Xceed formed the Global Business Dialog on E-Commerce (Global Business Dialog on E-Commerce, 2006) (GBDe) in 1999 which provides specific recommendations for public and private sectors on key areas of e-commerce policy, such as broadband, consumer confidence, cyber security, intellectual property rights, spam and electronic payments. GBDe issued its Alternative Dispute Resolution Guidelines on November 2003. The efforts of the GBDe were recognized in 2002 by the "Brussels Declaration", signed by representatives of 10 Governments (Canada, Denmark, Egypt, European Commission, Germany, Japan, Spain, Sweden, the UK and the US) to support the ongoing work of the GBDe and encourage greater dialogue and cooperation with other organizations.

## 4. ONLINE ARBITRATION IN CHINA

The current study aims to explore the viability of online arbitration in China by taking the advantage of information communication technology. The phrase “dispute resolution” has frequently appeared in the Rules for CNNIC Domain Name Dispute Resolution Policy but not the word “arbitration”. The Arbitration Law of the People’s Republic of China (PRC) does not specify the definition of arbitration or dispute resolution although the word ‘dispute’ and ‘arbitration’ have been used under different contexts in the Arbitration Law of the PRC. For example, Arbitration Law of the People’s Republic of China in Article 2 states that disputes over contracts and disputes over property rights and interests between citizens, legal persons and other organizations as equal subjects of law may be submitted to arbitration. Arbitration refers to the determination of disputes by the decision of one or more persons who are known as arbitrators (Osborn and Woodley, 2005). Arbitration can be regarded as a form of dispute resolution as dispute resolution and arbitration are closely related to each other in the chain of legal procedure and has apparent interdependence. The China Internet Domain Name Regulations, Article 38 states that in case the decision of the domain name dispute resolution institution is in conflict with the legally effective judgment of the people's court or the arbitration organization, the legally effective judgment of the people's court or the arbitration organization prevails. This illustrates that the same dispute may be submitted to a Domain Name Dispute Resolution Service Provider as well as a people’s court or an arbitration organization in China. Arbitration organizations in China are involved in dispute resolution in connection with domain name or otherwise.

There are a number of different definitions of the term “online”. The American Bar Association defines the term as the use of the Internet or related communications technologies, e.g. email, videoconferencing, or interaction via a website or chatroom, as the primary method of communication during a transaction or related arbitration proceeding (American Bar Association, 2002a). Online arbitration has already taken place in China with disputes related to domain name. The CNNIC Domain Name Dispute Resolution Policy (CNDRP) (CNNIC, 2002) has set up an online dispute resolution system in China and authorized two dispute resolution service providers, namely the CIETAC Domain Name Dispute Resolution Center and the Hong Kong International Arbitration Centre (HKIAC), to handle disputes in relation to domain name .cn in China. The CIETAC Domain Name Dispute Resolution Center (CIETAC and HKIAC, 2006) was established in 2000 with the approval of China Chamber of International Commerce (CCOIC) and China Council for the Promotion of International Trade (CCPIT). The Center devotes itself to providing alternative dispute resolution (ADR) in the areas of intellectual property and information technology.

An analysis of the CNDRP online dispute resolution in China found that the mechanism was quick in resolving disputes and was relatively cheap when compared with traditional arbitral proceedings but was considered expensive by ordinary consumers. It was effective in enforcement as very few decisions have been challenged by the parties in the Chinese courts and showed that the procedure was ‘almost’ fair (Hong, 2004). The analysis further revealed that the CNDRP mechanism had its problems but was a valuable experiment for applying online dispute resolution system in China. It may become the basis of developing other electronic platforms of online dispute resolution for other sectors of China's business community.

## 5. FREE FLOW OF INFORMATION – A SUCCESS FACTOR OF ONLINE ARBITRATION

Free flow of information at high speed is one of the key factors in online arbitration. This might present a problem in China because of the unannounced filtering system in the Internet for politically sensitive information in China. Internet filtering is not new to intelligence units of a sovereign state but it could slow down the Internet traffic if a large volume of information is blocked for inspection.

The freedom of the flow of information on the Internet in China is not absolute and is subject to the laws of the country. Some statutes in China have provided restrictions to the flow of information in the Internet while some other statutes aim to assist a better flow and wider use of the Internet. Under the Statute on Computer Information System Security and Protection Regulation of the People's Republic of China, 1994 (Gao, 2002) government departments may take appropriate actions to safeguard national security and to protect their people in respect of "harmful information" such as state secrets and interest of state stability. Hence, the Chinese government is concerned with the supervision of information, e.g. news, public information and information products over the Internet, which may be important to state security. The PRC Constitution in Article 38 also makes provision that "for the protection of the dignity of the person of citizens of the People's Republic of China and insults, defamation, false accusations or false incrimination directed against citizens by any means is prohibited" (Nelson and Leigh, 2001). The Chinese Government faces a dilemma in which there are policies promoting the use of Internet by government departments and the general public while attempting to restrain "unwanted" materials at the same time.

## 6. INTEROPERABILITY OF CHINESE INTERNATIONAL LAW

As China becomes more involved in international trade and more foreign direct investors come to China, interoperability of the Chinese international law is one of the main concerns in the country. China's entry into the WTO has inspired a wave of reforms in existing laws and regulations (Cheung, 2001). As a member of the WTO, she is obliged to issue rules and regulations which comply fully with the approach of the WTO (i.e. rules and regulations including those in online arbitration which are transparent and predictable). Legislative reform in China is not an easy task but compliance with the WTO legal system will definitely proceed (Ho, 2001). Since then, China has taken steps to repeal, revise or enact more than one thousand laws, regulations and other measures to bring its trading system into compliance with WTO standards (United States Trade Representative, 2004).

Online arbitration is a borderless transaction which may involve more than one country. The issue of interoperability in respect of domain name has been examined under the China Internet Domain Name Regulations which are formulated in accordance with the relevant provisions of the state and with reference to the international rules for the administration of Internet domain names. The China Internet Domain Name Regulations has been reviewed and approved on the 8th Minister Working Meeting of the Ministry of Information Industry on 28 September 2004 and was promulgated on 5 November 2004. The China Internet Domain Name Regulations has become effective on 20 December 2004 (Ministry of Information Industry of the PRC, 2004). The main purpose of the China Internet Domain Name Regulations is to handle disputes of domain name in China and therefore does not cover a dispute of cross jurisdiction. Reference may be made to the policies and practices in other jurisdictions in relation to online arbitration so as to improve the interoperability with other countries. Countries that are active or have potential in online arbitration should start conducting more studies or consider an international forum on the issue of interoperability of online arbitration across jurisdictions. Before formulating an international convention on online dispute resolution, the issue of disclosure approach will be discussed in relation to a dispute in China.

## 7. THE DISCLOSURE APPROACH

There are several important legislations which are closely related to the management of online dispute resolution in China. They are the China Internet Domain Name Regulations, CNNIC Domain Name Dispute Resolution Policy and Rules for CNNIC Domain Name Dispute Resolution Policy. The CNNIC Domain Name Dispute Resolution Policy (CNNIC Domain Name Dispute Resolution Policy, 2006a) and the Rules for CNNIC Domain Name Dispute Resolution Policy (the CNDRP Rules) have been in effect since 17 March 2006 (Rules for CNNIC Domain Name Dispute Resolution Policy, 2006a).

The emphasis of an approach of disclosure can be found in the legislations of online dispute resolution in China. Under the CNNIC Domain Name Dispute Resolution Policy, the Domain Name Dispute Resolution Service Providers provide online name lists of expert for plaintiffs and defendants to be chosen in China. The Rules for CNNIC Domain Name Dispute Resolution Policy (the CNDRP Rules) are formulated in China in accordance with the CNNIC Domain Name Dispute Resolution Policy (CNNIC Domain Name Dispute Resolution Policy, 2006b) with a purpose to ensure fairness, convenience and promptness of a domain name dispute resolution procedure (Rules for CNNIC Domain Name Dispute Resolution Policy, 2006b). The CNDRP Rules does not specify any strategy in disclosing information by a party in a domain name dispute resolution. The CNDRP Rules in Article 29 requires that a Panelist, who is appointed by the Dispute Resolution Service Provider, before accepting an appointment, discloses to the Dispute Resolution Service Provider any circumstances giving rise to justifiable doubt as to the Panelist's impartiality or independence. If, at any stage during the proceedings, new circumstances arise which could give rise to justifiable doubt as to the impartiality or independence of the Panelist, that Panelist is again required to disclose promptly such circumstances to the Dispute Resolution Service Provider.

The CNDRP Rules continues to require that prior to the acceptance of appointment as a Panelist, a candidate is required to submit in writing a Declaration of Independence and Impartiality to the Domain Name Dispute Resolution Service Provider. The scope of the Declaration of Independence and Impartiality by a Panelist has not been explicitly stated in the CNDRP Rules. The requirements of disclosure in the CNDRP Rules so far apply to a Panelist in a domain name dispute resolution but not a Domain Name Dispute Resolution Service Provider, which is a party taking an active role in the whole process of the Domain Name Dispute Resolution. In comparison, the approach of disclosure adopted by the American Bar Association Electronic Commerce (E-commerce) and Alternative Dispute Resolution (ADR) Task Force is more explicit and different from those legislations in China.

The American Bar Association E-commerce and ADR Task Force has conducted a series of study in relation to online dispute resolution over the past years. Five sections of the American Bar Association, namely the Section of Dispute Resolution, the Section of Business Law, the Section of Litigation, the International Law and Practice Section, and the Intellectual Property Law Section, have jointly created a Task Force and Advisory Committee to create consensus-based protocols, workable guidelines and standards that can be implemented by parties to on-line transactions and by online dispute resolution providers. The American Bar Association E-Commerce and ADR Task Force released the Final Report and Recommendations on Addressing Disputes in Electronic Commerce and another Final Report on Recommended Best Practices for Online Dispute Resolution Service Providers on 5 September 2002.

The Final Report on Recommended Best Practices for Online Dispute Resolution Service Providers includes many principles that are applicable in both business-to-business (B2B) and business-to-customer (B2C) disputes. It assists consumers to make choices concerning Online Dispute Resolution Providers, to give consumers confidence in the efficacy of online dispute resolution and in B2C commerce generally, and to encourage consumers to use online dispute resolution as a means of obtaining dispute resolution for their complaints. It is therefore worthwhile to study the issues discussed in the Final Report on Recommended Best Practices for Online Dispute Resolution Service Providers. The approach taken by the Final Report on Recommended Best Practices for Online Dispute Resolution Service Providers is based mainly on the use of disclosure, the means of disclosure and the content of the disclosure. It consists of a mixed system of recommended disclosures and substantive practice standards (American Bar Association, 2002b).

The liability of a Panelist to be impartial and independent extends after the acceptance of appointment. A Panelist is required to disclose promptly such circumstances to the Domain Name Dispute Resolution Service Provider if new circumstances arise at any stage during the proceedings which could give rise to justifiable doubt as to the impartiality or independence of the Panelist. The CNDRP Rules do not further elaborate the issues of disclosure in particular the content of disclosure. The responsibility of what to disclose and how much to disclose rests on the Panelist concerned in the domain name dispute resolution.

There are several reasons for this disclosure-based approach in the Final Report on Recommended Best Practices for Online Dispute Resolution Service Providers. The study found that the online dispute resolution community is quite new and has not generated sufficient information to form substantive practice standards applicable to online dispute resolution and different Online Dispute Resolution Providers who focus on different markets such as service, product, merchant type and geography and that a single set of substantive standards may not be appropriate in all cases. It is further concluded that premature standard setting may retard the evolution of the online dispute resolution community in compiling a clear business model. A critical issue in any contract decision between a vendor (i.e. the merchant or the Online Dispute Resolution Provider or both) and a vendee (i.e. the consumer) is whether the vendee has sufficient information on how to make an informed and intelligent choice (American Bar Association, 2002). The American Bar Association E-commerce and ADR Task Force therefore stresses the importance of disclosing sufficient information among all parties concerned. The impact is significant on establishing the approach of disclosure by which relevant and important information is being passed to different parties to an online dispute resolution. It is equally important to focus on the issue of impartiality throughout the entire process of online dispute resolution which directly affects the creditability of the system of online dispute resolution in China.

## 8. IMPARTIALITY

The topic of impartiality has been covered in different contexts in the rules and regulations of domain name dispute resolution in China. The Panel, which is formed by the Dispute Resolution Service Providers in accordance with the procedural rules, should render a Decision to the dispute within 14 days from the date of the appointment of the Panel in accordance with the CNNIC Domain Name Dispute Resolution Policy, the relevant procedural rules, and the principle of independence, impartiality and convenience (CNNIC Domain Name Dispute Resolution Policy, 2006c). Article 12 of the CNNIC Domain Name Dispute Resolution Policy deals with circumstance in which a party to a dispute requests the withdrawal of a Panelist. Before the Panel makes a decision for a dispute, either party who believes that any of the Panelists who has a material interest in the opposite party and could influence the impartiality of the decision may request the Dispute Resolution Service Provider to ask the Panelist to withdraw from the Panel. In the request, facts and reasons must be stated with supporting evidence. The Dispute Resolution Service Provider shall have the discretion to determine whether the Panelist should withdraw or not (CNNIC Domain Name Dispute Resolution Policy, 2006d).

Requirements of impartiality are also incorporated in the Rules for CNNIC Domain Name Dispute Resolution Policy. The objective of the CNDRP Rules is to ensure, among other matters, the fairness of a domain name dispute resolution procedure (Rules for CNNIC Domain Name Dispute Resolution Policy, 2006b). Apart from the liability of disclosure for a Panelist in a Domain Name Dispute Resolution in China, the CNDRP Rules requires a Panelist to be impartial and independent (Rules for CNNIC Domain Name Dispute Resolution Policy, 2006c) throughout the process of dispute resolution. The Domain Name Dispute Resolution Service Provider under the request of a party to a dispute resolution has discretion to remove a Panelist before the Panel has rendered its decision under the circumstance that the party suspects the Panelist has material interests in the opposing party and that it may affect the fair ruling of the case (Rules for CNNIC Domain Name Dispute Resolution Policy, 2006c). By virtue of Article 31 of the Rules for CNNIC Domain Name Dispute Resolution Policy, a Panel is required to ensure that the parties are treated with equality and that each party is given a fair opportunity to present its case, state its reasons and provide the evidence in the proceedings (Rules for CNNIC Domain Name Dispute Resolution Policy, 2006d).

The requirement of submitting a Declaration of Independence and Impartiality prior to the acceptance of appointment as a Panelist to the Domain Name Dispute Resolution Service Provider under the CNDRP Rules does not clearly stipulate the content of the disclosure or the details of the Declaration of Independence and Impartiality. It is possible that Online Dispute Resolution Providers have contractual relationships with other organizations, such as merchants and trade associations and they should disclose such relationships to other parties who are involved in online dispute resolution services. The Online Dispute Resolution Providers should also disclose to the parties concerned in a dispute resolution to whom a referral compensation, e.g. referral fees, rebates or commissions, is paid and the amount of the compensation or the basis for calculating the amount of the compensation (American Bar Association, 2002c). The standards of practice in domain name dispute resolution in China can be improved if the Domain Name Dispute Resolution Service Provider, which is approved by the China Internet Network Information Center (CNNIC) to resolve the domain name disputes (Rules for CNNIC Domain Name Dispute Resolution Policy, 2006e) and has authority to appoint Panelists who are responsible for the resolution of a domain name dispute (Rules for CNNIC Domain Name Dispute Resolution Policy, 2006f), can explicitly include the content of disclosure in the Declaration of Independence and Impartiality in the CNDRP Rules.

The Final Report on Recommended Best Practices for Online Dispute Resolution Service Providers includes the issue of conflicts of interest among parties to online dispute resolution. An Online Dispute Resolution Provider is required to take reasonable steps to cause its arbitrators to disclose whether the Neutral, who is an individual serving for Online Dispute Resolution Providers (American Bar Association, 2002d), or a person closely affiliated with the Neutral (e.g. spouse, relative, or business partner), has any conflicts of interest including but not limited to circumstances such as: any direct personal, business, professional or financial relationship with a party or its representative; any direct or indirect interest in the subject matter or the outcome of the dispute, including contingent fee arrangements; and any personal knowledge that the Online Dispute Resolution Provider or Neutral has of facts relevant to the dispute (American Bar Association, 2002e).

The issue of conflicts of interest has been dealt with under the legislations of dispute resolution in China. In order to avoid any conflict of interest, CNNIC and domain name registrars should not participate in the proceedings of the domain name dispute resolution in any capacity or manner other than providing the information relevant to the registration and use of the domain name upon the request of the Dispute Resolution Service Providers (CNNIC Domain Name Dispute Resolution Policy, 2006e). The scope of the requirements in CNNIC Domain Name Dispute Resolution Policy is not as explicit when compared with that in the Final Report on Recommended Best Practices for Online Dispute Resolution Service Providers. CNNIC Domain Name Dispute Resolution Policy does include the CNNIC and domain name registrars but not the Dispute Resolution Service Providers in connection to conflicts of interest.

The Final Report on Recommended Best Practices for Online Dispute Resolution Service Providers further requires that an Online Dispute Resolution Provider should disclose: the selection process of arbitrators as to how individuals are selected to become part of the panel of arbitrators eligible to handle disputes; how a particular neutral is selected to handle a particular dispute; the process by which arbitrators are required to certify that they have no conflicts of interest and have disclosed all matters that might reasonably affect impartiality with respect to a particular dispute; and procedures for disqualification of a neutral for cause (American Bar Association, 2002f). In China, Dispute Resolution Service Providers are authorized by the CNNIC Domain Name Dispute Resolution Policy to manage the system of experts and form a Panel in accordance with the procedural rules in domain name dispute resolution (CNNIC Domain Name Dispute Resolution Policy, 2006f). However, it does not further elaborate the issue of conflicts of interest in the process of selection of Panelists in dispute resolution.

An Online Dispute Resolution Provider under the Final Report on Recommended Best Practices for Online Dispute Resolution Service Providers should also disclose the ethical standards for arbitrators including identification and/or link to the ethical rules by which the arbitrators are bound (American Bar Association, 2002g). The CNNIC Domain Name Dispute Resolution Policy requires that the expert team possesses high professional ethics and the ability of judging disputes independently and neutrally (CNNIC Domain Name Dispute Resolution Policy, 2006g). It is much more effective to disclose the ethical standards for arbitrators, Dispute Resolution Service Providers and Panelists including identification and/or link to the ethical rules by which the arbitrators are bound.

## 9. CONCLUSION

The momentum of informatization and the volume of international trade in China have heightened the feasibility of online dispute resolution or arbitration. The policies which promote the use of the Internet and those which restrict it should be revisited by the Chinese Government in order to formulate a policy that strikes a balance between the two polarized approaches in managing online dispute resolution in e-commerce. Collaboration with other jurisdictions (who are active and experienced in online dispute resolution) can improve the interoperability of Chinese rules, regulations and policies in online dispute resolution. The China Internet Domain Name Regulations, the CNNIC Domain Name Dispute Resolution Policy and the Rules for CNNIC Domain Name Dispute Resolution Policy have covered major areas of disclosure and impartiality but lack detailed procedures and guidelines by which the principle of disclosure and impartiality can be effectively applied. It is critical to the confidence of those who employ services offered by Online Dispute Resolution Service Providers in upholding the principle of "Justice should not only be done but should be manifestly seen to be done" (The Chief Justice, HKSAR, 2006). Although the issue of ethics is incorporated in the CNNIC Domain Name Dispute Resolution Policy, it is unclear through what type of assessment that such standards can be assured and maintained. In China, the Policy delegates full authority of defining and implementing ethical standards to the Dispute Resolution Service Providers. The country should take a proactive step in revisiting the relevant rules, regulations and policies in connection with the issues of free flow of information, interoperability, disclosure and impartiality of online dispute resolution so as to realize the online dispute resolution policy more effectively.

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# CRM: STRATEGIES FOR SUCCESSFUL IMPLEMENTATION

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## ABSTRACT

*CRM is an information system that tracks customers' interactions with the firm and allows employees to instantly pull up information about the customers such as: past sales, service records, outstanding records and unresolved problem calls. CRM stores all information about its customers in a database. Information such as customer names, what they bought, and what problems they have had with their purchases. CRM uses this data to coordinate sales, marketing, and customer service departments to work together smoothly to best serve their customers' needs. This paper puts forward strategies for successful implementation of CRM and also discusses barriers to CRM in e-Business and m-Business.*

***Keywords:*** Competitive Advantages; *e-Business, m-Business,* Barriers to CRM, Customers Loyalty.

## 1. INTRODUCTION

Today, in the business world, management recognizes that customers are the core of a business and that a company's success depends on effectively managing relationships with them (Turban, McLean, & Wetherbe, 2004). As a result, one of the first goals that management has its employees achieve is "the customers are always right," "do whatever it takes to deliver your promise," or something similar. All objectives are to achieve one ultimate goal, which is to make their customers happy. Often, these objectives become constraints for businesses and its employees when they do not have appropriate tools, equipment, or methods to achieve this goal. Many different definitions of CRM are made by CEOs of CRM providers or users; however, the short definition is that CRM focuses on building long-term and sustainable customer relationships that add value for both the customer and the company. Technology nowadays provides businesses systems that can help companies track customers' interactions with the firms and allow the firms' employees to pull up all past information about the customers. This is what is called a Customer Relationship Management (CRM) system. Competitive advantages that could be gained from CRM systems are summarized in Table 1.

**TABLE 1: Competitive advantages gained from CRM systems**

| Competitive Advantages | Examples |
|---|---|
| Increase in customer loyalty | Full information about customers profiles and previous requests or preferences is instantly available to sales and service representatives. |
| Superior service | Customers representatives can provide personalized service and offer new products and services based on customers purchasing history |
| Superior information gathering and knowledge sharing | The system is updated each time a customer contacts the organization, whether the contact is in person, by telephone, or via the Web. Sales, marketing, service, and technical support have access to shared databases. |
| Organizational learning | Managers can analyze patterns to solve problems and anticipate new ones. |

As such, CRM is a necessary tool for business because it distinguishes an organization from its competitors with the knowledge resources about product ideas and the ability to identify and find solutions to customers' problems. CRM can shorten the distance between customers and the organization, contributing to organizational success through customer loyalty, superior service, better information gathering, and organizational learning. Some have argued that customer satisfaction and loyalty is a science; however, Phelon (Phelon, 2004) takes it up a level by saying that "customer leverage is an art. Many of the CRM tools and applications are going wireless. The use of wireless devices by mobile service employees is enabling these services from the customer's site. In addition, communication methods such as Short Message Services (SMS) and e-mail from handheld devices are now being used as a means of improving CRM as well. In "The New CRM Imperative" Freeland (2002, 2003) suggests that companies should define the goal of implementing CRM in their businesses. He proposed the following:

1. Guiding Principles: Organizations who want to reshape the focus of their CRM programs should follow these three guiding principles:
   - Customer experience is essential to creating brand value.
   - Customer insight should inform and drive customer treatment.
   - CRM programs should be executed in a pragmatic way that mitigates financial and delivery risk.

2. Components for Success: To achieve these, organizations should organize their CRM initiatives around the following components:
   - Identifying the customers that the company wants.
   - Predict customers' behavior.
   - Improving the quality of customer interactions.
   - Identifying where money is being wasted or misspent on the market.

   By doing so, organizations can broaden their CRM focus by allow marketing as well as sales and services to work together efficiently to achieve the ultimate goal that is to serve the customers better with high quality.

## 2. CRM IN BUSINESS

CRM is an information system that tracks customers' interactions with the firm and allows employees to instantly pull up information about the customers such as: Past sales and/or service records; outstanding records and/ or unresolved problem calls. CRM stores all information about its customers in a database. Information such as customer names, what they bought, and what problems they have had with their purchases. CRM uses this data to coordinate sales, marketing, and customer service departments to work together smoothly to best serve their customers' needs (Daft, 2003).

### 2.1 CRM in e-Business (electronic Business)

Most companies now have on-line CRM in their websites. These E-commerce websites or enterprise portals are for sales ordering systems that control the access of retailers and wholesalers to the companies' products at the point of loading while also guaranteeing product level availability and high service level. For example, the oil industry has become a more vertical enterprise, which means that it spans the supply-chain from the exploration and the recovery of crude to refining to retailing of fuel and consumer products and services (Wreden, 2004) As a result; many companies take on different programs or strategies to capture more customers. These programs or strategies could include integrating fuel credit cards, personalized services, and so on. Another example is the banking industry. Almost all banks offer online banking and in each of these websites, one can normally see a rich format of graphical and media context that are designed to please the customers' eyes. Theses websites offer bankers access to their account anytime they wish. Besides online banking, the banks also offer other information such as credit rating reports, promotional rates for credit cards, personal loans, mortgage, etc. (Pery, 2003).

### 2.2 CRM in m-Business (mobile Business)

Many of the CRM applications are going wireless. Wireless CRM implies mobility and portability; employees can initiate a real-time contact with other systems from wherever they happen to be if they can connect to a wireless network. This characteristic breaks the barriers of geography and time, which is often a constraint for many organizations. Mobile business creates the following value-added attributes:

- Ubiquity: the availability of any products or services at any location at any given time.
- Convenience: users can operate the wireless devices in any environments.
- Instant connectivity: connections are available quickly and easily at anytime and anywhere.
- Personalization: the ability to customize the information to the customers.
- Localization of products and services: knowing the exact locations of the customers to offer product or services information is the key factors to success.

As e-Business gives organizations competitive advantage, m-Business promises plenty of opportunity in the future. Wireless changes the way organizations and customers interact with each other. Instead of being constrained to a wired Internet, wireless offer instant response to both parties (Beck, 2003).

## 3. BARRIERS TO CRM

There are many problems and difficulties that management has to take into consideration before deciding on implementing CRM. These problems include the following:

1. Lack of Definition: CRM is surrounded with new concepts, new technology, new methodologies, and is constant evolving. Management is often not sure how to approach CRM and how it would affect other aspects of the company's operation.
2. Poor Leadership: Leaders of CRM efforts are often functional heads who often do not have enough strategic plan or perspective experience of CRM.
3. Insufficient help from CRM vendors: CRM vendors are the ones who provide or introduce the new tools to organizations. Often, they only highlight the CRM aspects that involved in their products rather than addressing the important factors of CRM in many areas of the business (Dickie, 2004).

### 3.1 Barriers to Mobile CRM

There are many constraints to implementing mBusiness. These constraints include the following:

1. Not enough customer demand.
2. Large capital investment requirement:
3. Meeting customer expectation that includes: Connection, Convenience, Consolidation, Constancy, Consumption and Control.

Such strategies are not easy to achieve. If the customers do not get what they want they will not come back to the site (Lahey, 2001).

## 4. DIFFICULTIES AFTER IMPLEMENTING CRM (POST-CRM)

Not all companies who implemented CRM have been successful. Often, these companies have overlooked the critical factors that lie behind a CRM project. These factors are:

- Failure to obtain and maintain executive support for the project.
- Failure to align key internal functions or business units on goals and mission of the project.
- Inability to accurately link the CRM project to higher-level business strategies.
- Focusing on capability building instead of ROI creation.
- Lack of an integrated plan for project implementation.
- Failure to achieve successes early in the project.

## 5. ROAD MAP TO IMPLEMENTING CRM

The following are the recommended four key steps to CRM strategy and implementation.

1. Strategic context: The organization should understand how CRM fits into the context of the company's overall business strategy.
2. Capabilities assessment: The assessment should confirm the company's current CRM capabilities.
3. Business case development: The organization needs a good reason to implement CRM other than new technology fever.
4. Implementation plan creation: The organization should create and execute a plan that clearly defines how to achieve the intended goal.

CRM implementation can enhance an organization's ability to improve customer service, which in turn can generate revenue. However, not all organizations who implement CRM have been successful. In order to have a successful implementation of CRM, organizations should evaluate how CRM fits into their overall business strategy, evaluate its current CRM capabilities, and have a business reason for implementing CRM. They should then create a plan and execute it (Davenport, 2001).

## 6. CRM AND GOOD BUSINESS PRACTICE

Although in Business-to-Business (B2B), m-Business is still new, there are many opportunities for businesses to explore. These include:

- Purchasing on the spot: managers travel and make a purchase decision right where they want.
- Management, control, and cutting cost: management can use wireless to improve monitoring, communication, and integration.

In Business-to-Consumer (B2C) however, m-Business needs to be integrated fully to be successful, especially for retailers in the way they promote their business. They need to guide their customers by giving them the necessary information on how their business functions and what the benefits are. In addition, they need to find a way to promote the use of m-Business. For example, Best Buy, one of the large retailers, offers a wireless website for mobile customers (McClain, 2001). The company puts control of the shopping carts back into the hands of customers by telling them the number of items in their carts and the value of those items. Before entering the checkout process, Best Buy gives the customers the ability to check product availability and make changes to their orders. Another example is Florist Free Delivery (FTD) floral services. This company provides text menus to guide customers so that they know where they are all the time, whereas in many wireless website, customers often get lost due to complicated browsing.

## 7. CONCLUSION

A CRM system can provide a powerful competitive advantage for organizations to enable them to survive in today's market. It helps management track customers' interactions with the organization and allows the organization's employees to pull up all past information about the customers. Competitive advantages that organization could gain from CRM systems includes the following: Increase in customer loyalty, superior service, superior information gathering, knowledge sharing and organizational learning
CRM system is not "just another information tool." If applied properly, CRM programs can contribute exceptional economic value to the company as well as competitive advantage. Implementation of CRM systems can enhance an organization's ability to improve customer service, which in turn can generate revenue.

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## BOARD COMPOSITION AND BOARD MEMBER ATTRIBUTES DRIVE PROFITABILITY
### *Vision, Competence and Diversity Emerge as Important Concepts in Board Governance*

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**ABSTRACT**

*With the recent convictions of Ken Lay and Jeff Skilling, an important chapter in corporate scandals has come to an end. Mr. Lay, a former chairman and CEO of Enron and Mr. Skilling a second former CEO of Enron, both joined other infamous corporate executives like Tyco's Dennis Kozlowski, Worldcom's Bernard Ebbers and Adelphia's John Rigas in being found guilty of illegal behavior. No doubt, the Enron collapse and the other high-profile scandals set the stage for the passage of the Sarbanes-Oxley Act of 2002 (SOX), which attempted to reform corporate governance. Both the scandals and the passage of SOX have focused attention on the larger topic of corporate governance and raised a series of questions about the composition of boards, how they do their work, and what difference governance makes to a company's profitability and shareowner returns. This study focuses attention on certain important board governance variables that appear to make a big difference in terms of whether or not companies produce profits.*

**Keywords:** *Board Governance, Board of Directors, Corporate Scandals, Executive Leadership, Diversity, Vision Statement, Sarbanes-Oxley Act (SOX).*

### 1. INTRODUCTION

"Simply put, good corporate governance does, in fact, pay" (Eisenhower and Levin, 2005, p. 11). The foregoing was the conclusion Eisenhower and Levin arrived at after reviewing a raft of studies that largely link good corporate governance with long-term profitability. These findings support Bradley's (2004) earlier review, stating ". . . these links (between returns and governance) do exist" (p. 8). Both empirical research and common sense argue for a causal link between sound governance practices and a company's financial success.

### 2. LITERATURE REVIEW

Investors, too, are reportedly willing to pay a premium for the shares of companies with good governance practices. McKinsey (2002) in its "Global Investor Opinion Survey" found that investors were prepared to pay an 18 percent premium for North American companies displaying positive governance practices. A massive study of the increasing focus on corporate governance by institutional shareowners worldwide conducted by Institutional Shareholder Services, (ISS, 2006) reported that investors want to see better boards, with nine out of ten institutional investors viewing corporate governance as important today.

For research purposes, corporate governance has been defined and measured in many different ways. Governance has been associated with variables related to concepts as widely divergent as board characteristics, audit, charter and bylaw provisions, laws of the state of incorporation, executive and director compensation, qualitative factors, ownership, and director education, culminating in the seemingly comprehensive ISS Corporate Governance Quotient (CGQ, 2006) available at the ISS Web site (http://www.issproxy.com). A recent press release from ISS (May 10, 2006) noted that the CGQ currently measures 63 governance variables grouped into eight categories and reported for 8,000 companies worldwide. Of note, Brown and Caylor, who provided analysis of an earlier 51-variable version of the CGQ (2004), reported the "board of directors" as the most important "core" factor driving company results.

The current study examines some of the same variables as other recent research, but finds that board vision, tenure and diversity, not measured in the CGQ or other rating schemes like GovernanceMetrics International's corporate governance ratings or the Governance Index of Gompers, *et.al*. (2003) offer significant explanatory power in determining company profitability.

## 3. STUDY METHODOLOGY

MBA students at Miami University of Ohio under the directorship of Dr. Barry Spiker, the Markley Visiting Professor of Management at the Richard T. Farmer School of Business, conducted the study during the spring semester of 2005. The students formed 10 separate teams with each team selecting 10 companies from a particular industry to review, making a total of 100 potential companies in the sample. The students selected five large companies and five small companies within each industry. The industries selected for study included aerospace/defense, bio-medical, consulting, energy, financial services, healthcare, hospitality, pharmaceutical, retail and transportation.

The students collected data from publicly available documents, company Web sites and from contacts with the companies for follow-up data to complete the company profile. Of the 100 potential companies, students completed 89 profiles. The students selected profitability in the most recent reporting year as the sole performance measure.

Students formed questions similar to those in the CGQ "board of directors" factor, but added questions about whether the company had female board members or board members of color, tenure of board members, and whether the company published a "vision statement" or not, among others.

## 4. RESULTS

**TABLE 1: TEST OF DIFFERENCES BETWEEN PROFITABLE AND UNPROFITABLE COMPANIES FOR SEVEN BOARD GOVERNANCE VARIABLES**

| Board Characteristic Variable | Number of Observations | Level of Significance |
|---|---|---|
| Presence of Vision Statement | 89 | .05 |
| Combined Chairman/CEO | 89 | .05 |
| Board Member Tenure | 89 | .05 |
| CEO Evaluation Procedure | 89 | .05 |
| Audit Committee Chair Formal Training | 89 | .05 |
| Board Member of Color | 89 | .05 |
| *Female Board Member | 89 | .05 |

*Note: Absence of a female board member produced significantly fewer companies with profits during the most recent reporting year.

## 5. DISCUSSION

Vision, as measured by the presence of a vision statement in the company's annual report or on its corporate Web site, matters in terms of profitability. Companies were significantly more likely to be profitable when they have published a vision statement for public viewing. The publication of a vision statement bears witness that the board understands part of its leadership function.

Capturing vision requires focused attention on the visioning process, honest communication among the members of the board, and sufficient time for thoughtful consideration and careful documentation. Then, to be truly the guiding light for the organization, it has to be lived by board members and shared widely with employees, shareowners, customers and suppliers. An old Japanese proverb sums up the role of the board's vision: "Vision without action is a daydream. Action without vision is a nightmare."

Competence/Experience on the board matters in terms of profitability. The study measured competence/experience by determining if the CEO was also the Chairperson of the board, tenure of board members on the board, whether the board had a formal evaluation procedure for the CEO and whether the Audit Committee Chairperson had formal training in accounting. Though recently much has been made about separating the role of the CEO and Chairperson, the study found that companies with separate roles were significantly less likely to be profitable than companies with a combined CEO/Chairperson. In other words, employing an executive with the skills that it takes to do both jobs helps ensure profitability. Longer tenure of board members also affected profitability positively. Companies with formal CEO evaluation procedures in place were significantly more likely to be profitable than those without those procedures. Similarly, those companies where the Audit Committee Chairperson had formal training in accounting were significantly more likely to be profitable than those who companies where the Audit Committee Chairperson did not have that training. Overall, there appears to be a competence/experience factor that directly relates to profitability.

Diversity on the board matters in terms of profitability. The study measured diversity by determining whether the board composition included a woman or a person of color. When a person of color was a board member, those companies were significantly more likely to be profitable than companies that had no representation from persons of color. Female representation on the board also made a difference. While having a female board member did not ensure profitability, companies without a female board member were significantly less likely to be profitable. On balance, greater diversity appears to be favorably related to profitability. These results support those of a 1998 study by Hilman, *et. al*., which found that ". .. companies with the most women and minority directors had shareholder returns 21 percent higher than companies with none" (p. 1). Interestingly, the 2005 report of C200 Business Leadership Index reported the following: "While this benchmark has grown just 3 percent from 2.92 in 2004 (out of a possible 10). . . if progress continues at the current rate, it will take more than 50 years to reach parity" (p. 11).

## 6. IMPLICATIONS

Though the generalizability of this study is limited by the relatively small number of companies studied and employment of only one measure of profitability for a single year, it appears that exactly which board of directors' governance variables actually impact a company's profitability remains open for further study. The most comprehensive governance rating provided by ISS does not include variables like vision and diversity, nor does it fully capture competence/experience, while including several other items that bear no significant relationship to profitability as reported in its own studies. Vision, competence/experience and diversity need to be included in future studies to more thoroughly examine the relationship of each to a company's profitability. While there can be no guarantee that good corporate governance will favorably impact a company's financial performance, understanding which factors actually matter and then employing those factors in future research should help boards better govern toward the goals of enhanced profitability and better shareowner returns.

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# CAPITAL CONTROLS AND STOCK MARKET VOLATILITY IN AN EMERGING MARKET: EVIDENCE FROM JOHANNESBURG STOCK EXCHANGE

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## ABSTRACT

*We employ TCGARCH methodology to examine whether the imposition of capital controls in South Africa affected the daily returns volatility of the Johannesburg Stock Exchange (hence forth JSE) composite index over the twelve year period 1990 to 2004. We divide our sample in two sub-periods (January 1990 to March, 1995 and April, 1995 to December 2004) in order to account for differences in volatility induced by capital controls processes of the early 1990s. The conditional variances of Gold Index (GLDI), Industrial Index (INDI), Banking Index (BNK) and All Share Index of the JSE indexes are estimated and used to test for shifts in the volatility processes of these indexes of the sub periods. We construct a long period of capital control liberalization that captures all identified capital controls of the South African market, and compare the change in volatility both in and after the capital controls period. We find that volatility was lower prior to March 1995 when capital/exchange rate controls and dual exchange rates were in place. The results also indicate that conditional volatility of the JSE increased considerably following the unification of exchange rates and the removal of exchange rate controls on non-residents. The increase in volatility is consistent with the increase in foreign purchases (particularly US purchases) of South African equities after March 13, 1995.*

## 1. INTRODUCTION

### Capital Controls and Stock Market Volatility in an Emerging Market: Evidence from Johannesburg Stock Exchange

Financial liberalization and changes in the implementation of monetary policy have led to large volatilities in equity markets worldwide (particularly in emerging market economies). The South African economy has also undergone a number of important structural changes during the past two decade. They include: the relaxation of exchange controls, financial innovations in the equity market, and the integration of South African financial market into the global financial markets. This may have altered the stochastic behavior of the stock market volatility. Changes in the implementation of monetary policy, financial innovations, the integration of international financial markets and the removal of most of the external capital controls are all factors that alter the equilibrium relationship between variables that determine stock market volatility. This paper examines whether the removal of capital controls in the South Africa affected the stochastic behavior of the stock returns, and provided insulation to the volatility process of the Johannesburg Stock Exchange (JSE) index.

Controls on capital outflows have been advocated as a way of dealing with financial and currency crises. These controls can take a number of forms: restriction on capital account transactions including taxes on funds remitted abroad, outright prohibition of funds' transfers, dual exchange rates and outright prohibition of cross-border movement of funds. The idea behind these measures is that they help slow down the drainage of international reserves and capital outflows and give the authorities time to implement corrective policies. This paper focuses on imposition of dual exchange rates known as the financial and commercial rand system. They reflect market imperfections driven by capital controls of regulatory nature. Their imposition and/or removal dates are specific. These measures were imposed on non-resident portfolio capital outflows in the 1985-1995 period to reduce the volatility exchange rates movements. The paper examines whether these capital controls affected the volatility of the South African stock returns.

To advance our hypothesis, we employ the generalized error distribution (GED) with component threshold GARCH (CTARCH) to model the stock return volatility. The model captures the asymmetry and other properties that characterize the emerging market stock returns [see Kim and Kon (1994)]. The results indicate that volatility of the JSE increased considerably after March, 1995. The remainder of the paper is organized as follows. Section 2 documents history of capital controls and the exchange rate regimes in South Africa. Section 3 outlines the existing literature and the contributions of the current study. Section 4 discusses the data and summary statistics. Methodology and hypotheses are presented in section 5. Section 6 discusses the estimation results while section 7 provides a summary and conclusion.

## 2. EXPECTED RESULTS AND CONCLUSION

We employ TCGARCH methodology to examine whether the imposition of capital controls in South Africa affected the daily returns volatility of the Johannesburg Stock Exchange (hence forth JSE) composite index over the twelve year period 1990 to 2004. We divide our sample in two sub-periods (January 1990 to March, 1995 and April, 1995 to December 2004) in order to account for differences in volatility induced by capital controls processes of the early 1990s. The conditional variances of Gold Index (GLDI), Industrial Index (INDI), Banking Index (BNK) and All Share Index of the JSE indexes are estimated and used to test for shifts in the volatility processes of these indexes of the sub periods. We construct a long period of capital control liberalization that captures all identified capital controls of the South African market, and compare the change in volatility both in and after the capital controls period. We find that volatility was lower prior to March 1995 when capital/exchange rate controls and dual exchange rates were in place. The results also indicate that conditional volatility of the JSE increased considerably following the unification of exchange rates and the removal of exchange rate controls on non-residents. The increase in volatility is consistent with the increase in foreign purchases (particularly US purchases) of South African equities after March 13, 1995.

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# ETHICAL INVESTING AND BABY BOOMERS

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## I. INTRODUCTION

Social responsible investing (SRI) can be described as ethical investing, mission-based investing or social investing. It is defined as an investment process that considers social and environmental consequences, both positive and negative, and involves rigorous financial analysis. It is a process of identifying and investing in companies that meet certain standards of Corporate Social Responsibility (CSR), a process that entails open and transparent business practices recognizing ethical values and respect for employees, communities and the environment. Its purpose is to achieve specific financial goals while building a better, more ethical and sustainable economy to the society at large including shareholders. Investors include individuals, businesses, universities, hospitals, foundations, pension funds, religious institutions and other nonprofit organizations. Professional investment managers involved in SRI are required to overlay a qualitative analysis of corporate policies, practices and the impacts onto the traditional analysis of wealth maximization. This research paper examines the growing trend of socially responsible investing (SRI) and its impact on the investment behavior of the baby boom generation.

Baby boomers are post-war generation men and women born from 1946 to 1964 representing
76 -78 million men and women. They have matured and represent a large block of consumers with unmatched buying power. As they age they will dominate trends as they have throughout their generation and as they lope into retirement, their spending habits will change because they face significant responsibilities for parents and children. In the past decades, employer sponsored pension plans have shifted from the defined benefit plans to defined contribution plans-the 401(k). This shift has profound implications for retirement security for both men and women of the baby boomer generation because the burden of investment decisions falls on the individual and has an even greater impact on working women (Timmermann, 2005). How husbands and wives in family units handle their savings and investments may vary. It is common that in many families, women are more financially savvy than their husbands about investing and may be more informed and interested in working with investment professionals.

Concerns about business ethics, corporate governance, environmental and labor practices and the treatment of animals by large agribusiness firms continue to energize the growth of SRI. Participants include broad income and demographic categories but are significantly women between 40 and 60 years old (Hersch, 2005). The economic status of women has improved over the years. More women are educated, working and increasing their earning power and financial independence than in the past. According to 2004 U.S. Department of Labor statistics, 49% of women have a bachelor's degree compared to 51% of men and 42% of women have a masters, professional or doctoral degrees compared to 58% of men. This is quite a contrast to the 1950s, the era of the nuclear family characterized by television programs like "Leave It to Beaver." During the 1950s, 86.8% of men were in the work force while only 33.9% of women worked.

Many investors are searching for ways to profit from this shift. Baby boomers are educated and sophisticated investors who pay the largest percentage of taxes annually, are concerned about finances, the environment, and the quality of living including costs of illness. The 2006 result of Merrill Lynch New Retirement Survey reported that 43 percent of baby boomers say they are family oriented and 'put others first' compared to 4 percent that say they put themselves first.

Below is the complete result of the Merrill Lynch Survey:

“Which of following best describes you completely?”

| | | | |
|---|---|---|---|
| Family oriented | 74% | Religious | 34% |
| Open to new ideas | 46% | Like to be in control | 29% |
| **Put Others First** | **43%** | A dreamer | 19% |
| Spiritual | 41% | A workaholic | 17% |
| Self confident | 38% | **Put yourself first** | **4%** |

Source: “A Landmark Study on Baby Boomers and Retirement”. Merrill Lynch. 2006.

Though the result of Merrill Lynch Survey addresses opinions of baby boomers at the individual or micro-level, it has far reaching implications on the community on an aggregate or macro-level. Family units make up the society. Therefore, it is reasonable to state (normatively) that majority of baby boomers are socially and environmentally aware investors who seek peace of mind, financial security, improved quality of living for themselves and their family members, civil rights and the society wellbeing, at large. It is also worthy to note that baby boomers’ influence on investment and consumption behavior reaches out to the generation trailing the baby boomers (i.e., 18-44 years old). Together, they form the bulk of the investing community. This suggests that baby boomers will continue to redefine life stages not only for themselves but for generations to follow.

## II. SRI SCREENING STRATEGIES

Socially responsible investing utilizes three related strategies – screening, shareholder advocacy and community investing - designed to promote socially responsible business practices with the objective of improving the quality of living.

> Screening involves identifying and investing in companies that meet certain standards of Corporate Social Responsibility (CSR). The process requires open and transparent business practices recognizing ethical values and respect for employees, communities and the environment. Its purpose is to achieve specific financial goals while building a better, more ethical and sustainable economy around the world.
>
> Shareholder advocacy entails increased shareholders’ activism by exercising their proxies and dialoguing with the company’s board of directors on issues of social and environmental concerns. The Security and Exchange Commission regulates the resolution of proxies on social and corporate governance matters so that companies can improve business practices that would promote long term shareholder value and financial performance.
>
> Community investing directs capital from investors and lenders to communities that are underserved by traditional financial services. Access to credit, capital and basic banking products are made available to low income individuals and small businesses that otherwise lack them.

By using the three strategies, SRI practitioners foster sustainable development in financial underserved communities. Today, many portfolio managers dedicate a percentage of their portfolios to community investing companies. In addition, social investors in mutual funds, pension funds and other portfolios are increasingly becoming more active in shareholder activism and engaging companies to become more responsible on corporate transparency and accountability, social and environmental issues.

## III. GLOBAL INITIATIVES ON SRI

Socially responsible investing in financial markets is firmly on a path of steady growth. SRI assets increased more than 258 percent to $2.29 trillion in 2005 from $639 billion in 1995, while the broader universe of assets under professional management increased less than 249 percent to $24.4 trillion from $7 trillion over the same period (Social Investment Forum-SIF, 2005). The socially responsible investments under management by pension funds, mutual fund families, foundations, religious organizations and community development financial institutions has remained stable. The growth in socially and environmentally responsible investing was particularly robust during 2001 and 2002 despite sluggish market conditions that resulted in a downturn in assets in the investment universe. Specifically, between 2001 and 2002, socially screened portfolios grew 7 percent while the broader universe of professionally managed portfolios fell 4 percent (SIF, 2003).

Over the past ten years, SRI has shown impressive growth in the United States of America. In 1984, investment assets in SRI were $40 billion. In 1985, SRI assets grew to $639 billion and by 1997, $1.18 trillion invested was involved in SRI. Rapid growth was recorded in 1999 as SRI assets increased to $2.16 trillion, a 183 percent increase from 1997. In 2001, SRI assets grew to $2.32 trillion with socially screened portfolios accounting for approximately $2 trillion from large and small cap stocks, domestic equity index funds and international offerings. The growth in social investing remained healthy at $2.16 trillion in 2003, despite a 4 percent decline in the broader universe of professional managed investments between 2001 and 2002. The popularity of socially screened investments has accelerated since 2005 with the creation of the first socially screened Exchange-Traded Funds (ETFs). Socially screened mutual funds have also experienced high rates of growth driven largely by individuals who have discovered the flexibility of aligning their investments with their values. Financial institutions have made socially responsible mutual fund options available to individuals in their 401ks and college-savings plans. The baby boom generation directly impact the trend and this trend will continue with the decline in defined benefit plans.

Though cultural concepts of SRI and Corporate Social Responsibility differ around the world, socially responsible investing continues to grow globally. In Canada, SRI assets have increased 27 percent to CAN$ 65.46 billion as of June 30, 2004 from CAN$ 47.78 in 2002. In Europe, ethical investing has become the fastest growing sector expanding tenfold over the past decade in United Kingdom; in France, the number of retail market funds has tripled during the same period. According to the European SRI report, the number of socially screened mutual funds has almost doubled to 300 in 2002 from 150 in 1999, with 70 percent of funds concentrated in the United Kingdom, Sweden, France, and Belgium. The European Social Investment Forum (EuroSIF) found that €336 billion was invested in socially responsible assets (White, 2005). SRI is also an investment option for pension management in the Pacific Rim. From June 2004 to June 2005, portfolios managed under SRI in Australia have increased 70 percent to AUD 7.67 billion from AUD 4.5billion. In Asia, international portfolio investment managers have increased their attention to social investing options. The International Finance Corporation (IFC) estimates that SRI assets in emerging markets have reached $2.7 billion

As international interest in SRI has exploded, money managers have adopted investment principles of integrating personal ethics and corporate ethics into investment decision-making and the market is growing two to three times as fast as the rest of the financial services industry. Socially responsible mutual funds have adopted inclusionary policies that look for companies operating in a socially responsible manner to include companies that are sensitive to environment requirement, military weapons production, human rights and women issues, tobacco, alcohol, animal welfare and gambling.

Social Investment Forums have been formed in the United States of America, Canada and Europe promoting the concept, practice and development of sustainable and responsible investing. The Turnbull Report of 1999 in United Kingdom required companies to disclose their social and environmental risks. In France, the New Economic Regulations was introduced with a similar goal, while in the U.S. the Sarbarnes-Oxley Act of 2002 focused on financial transparency and raised the profile of the social implications of corporate behavior. In the U.S., the $2.29 trillion of pension funds invested in socially responsible pension funds are under management by some of the best known ethical funds such as Dreyfus Third Century, Vanguard Calvert Social Index, Domini Social Equity and Aquinas Equity Income, Citizens Index, FTSE4Good, Dow Jones Sustainability Index, and Pax World. Major financial institutions such as Barclays Group, Merrill Lynch, JP Morgan Chase, CitiGroup and Lehman Brothers also are focusing more on the ethical concerns of younger investors.

## IV. SRI, RELIGION AND BABY BOOMER GENERATION

The practice of socially responsible investing dates back to the $17^{th}$ century when the Quakers refused to support industries that contributed to weapons of war and slavery. In the mid 1700s, John Wesley, founder of the Methodist Church emphasized 'that the use of money was the second most important subject of New Testament teachings' (Statman, 2005). Further insights on the origin of SRI can be found in the economics of religion. For example, the Evangelical Christians avoid companies that engage in adult entertainment, gambling, alcohol production, abortion and family benefits to homosexuals; the Amana funds guided by Islamic principles prohibit investments in interest bearing securities such as bonds; and the Ave Maria Catholic Values fund avoids investing in companies connected with environmental insensitivity, abortion, pornography and non marital partner benefits. Though the origin of social responsible investing has its roots in religion, there are disagreements about the boundaries of SRI. While tobacco remains the dominant screen, new screening practices include companies with operations in Sudan, terrorist states, human rights, environment and equal employment. In spite of the disagreements on the characteristics of socially responsible companies, SRI has grown rapidly over the last 25 years and ethical investing has become more common as wealth is transferred to younger and better educated investors, many of them baby boomers (about 76-78 million) born in the U.S. between 1946 and 1964 (Stendardi, 2005).

With the unique mixture of value and aspirations of the baby boom generation, financial analysts have begun to screen or scrutinize investments choices based not only on economic benefits for the enterprise and economic prosperity for its stakeholders and society, but also on environmental protection and resource conservation on local, regional and global scales. To many baby boomers, peace of mind includes financial security and improved quality of life for employees and society as a whole. Conscientious investing is a revolution happening. Investors need to know that the companies in which they have invested their retirement assets also subscribe to ethical and civic values they hold dear.

## V. CORPORATE RESPONSIBILITY AND SRI

Corporate scandals at Enron, WorldCom, Adelphia and Tyco have led to stronger laws and discussions about ethics in investing. There is increasing awareness on corporate responsibility and investors' activism has increased because social responsibility includes monitoring how corporate earnings as well as spending. Recently, legislation by state legislatures in Arizona, Illinois, Louisiana, Oregon, and New Jersey has been enacted requiring that public companies disclose their environmental and social responsibility profiles, just as they do financial results. In addition, several state treasurers and comptrollers from Connecticut, New Jersey, California, Maine, Iowa, Maryland, Massachusetts, New Mexico, North Carolina, Vermont and Oregon have joined other institutional investors expressing concern about the risks associated with climate change. Using on Faith-Based criterion, seventy nine percent of U.S. investors consider themselves religious or spiritual and of that group, 62 percent indicated that their investment decisions reflected their values; in Australia, 97 percent cited the companies 'conservation mission' as an important factor in their decision to invest; and 75 percent of U.K. residents believe that SRI would have a positive impact on businesses (Kurtz, 2005). According to a July 2005 report by the Social Investment Research Analyst Network (SIRAN), fifty eight companies within S&P 100 Index have developed websites where information on their environmental and social performance is shared. Many of these companies base their corporate social responsibility reports (CSR) on the widely accepted standard provided by Global Reporting Initiative's (GRI) Sustainability Report Guidelines. As a complement to the GRI guidelines, companies may choose to verify their credibility and quality of their data on social, environmental and economic performance by adopting the AA1000 Assurance Standard developed by AccountAbility (White, 2005). Also, GRI's standard is coordinated with the International Organization for Standardization (ISO), the largest global organization responsible for developing international management practices and systems. The Organization for Economic Cooperation and Development (OECD) has also created guidelines for multinational enterprises requiring public companies to report their commitment on environmental and public policy.

## VI. RISK AND RETURN

SRIs focus on financial returns as their non SRI counterparts. An increasing number of money managers compete to invest our savings in socially responsible investments. However, most baby boom investors are not willing to bear the cost of social responsibility. Krumsiek (1997) stated that a Yankelovich survey reported that 80 percent of investors would not invest in ethical funds unless their rates of returns were at least equal to those of conventional mutual funds. In 1985, the 9 ethical mutual funds tracked by Lipper Analytical produced yields ranging from 18.6% to 31.41%. The Pioneer II fund, an ethically screened fund grew 756% in 10 years, one of the 25 best funds of the period (Martin, 1986). Martin also reported that assets managed according to ethical considerations grew by over 100% for each of the past 5 years and totaled in excess of $50 billion. In the US, ethical funds grew to $639 billion in 1995 from $40 billion in 1984. By the year 2000, overall social responsible investments totaled $2 trillion with assets in ethical funds reaching 1.5 trillion (Stone 2000). Seventeen of Fifty five socially responsible funds (31 percent) tracked by Morningstar received a rating of 4 or 5 (Hersch, 2005). SRI stocks are doing well if not better than their non screened counterparts and many top quality money management firms are attracted to them. In fact some of the respectable funds have established relationships with life insurance companies so that they could offer SRI funds in their variable life and annuity products.

Ethical investing has become an important force in investing. The increased pressure on companies to address their broader role in society is driven by three interrelated factors: the transfer of wealth from government to the private sector, deregulation of numerous industries and the dismantling of international trade barriers. As the private sector has acquired power and influence from the government over the past decades, the general public expects that corporations will act in their best interests. The goal of maximizing corporate profits does not create true wealth if the corporation is insensitive to the social and environmental requirements of the community. Although professional money managers are not obligated to serve SRI clients, once they have agreed to do so they have an obligation to assure that their clients' investment objectives are compatible with their financial objectives.

To broaden its appeal, socially responsible investing needs a large and loyal group of investors; hence they include companies that have progressive policies such as environmental stewardship. The Domini Social Equity Index outperformed the S&P 500 by an annualized 125 basis points for the 15 years ended December 2004 because it is a broad based fund. The Meyers Pride Value (MPV) Fund had a loyal but small investor base and only $14.4 million of assets according to its 2001 annual report. The MPV fund which promoted equal rights for gays and lesbians employees could not thrive and was sold to Citizens Value Fund. While the assets of Ave Maria Catholic Values Fund attracting a large and loyal group of investors is almost $240 million, the assets of Amana's Growth Fund that follows Islamic teachings prohibiting earning interest on investments is less than $54 million at the end of June 2005. Therefore, a broad based criterion of social factors, particularly in the environmental, corporate governance and employee relations areas reduces the risk of SRI.

## VII. CONCLUSION

The transfer of wealth to younger and better educated investors, many of them baby boomers has become an important force in investing because the bulk of wealth is in the hands of this group. Ian Coleman, the London based global valuation and strategy leader of PricewaterhouseCoopers noted that money managers would be 'mad to ignore such heavy weight of money which is growing every year'. The Security and Exchange Commission has also made it clear that money managers must vote their clients' proxies in a manner consistent with their clients' financial interests. Therefore, money managers need to understand relevant social and environmental data and the financial implications for companies.

SRI is making a difference in the financial markets and if we assume that the capital markets are imperfect, then ethical investors have a significant impact on corporate behavior. These investors are predominantly long term investors by choice, particularly with pension funds. They tend to be conservative investors concerned about the legitimacy and viability of our economic systems. The concept of SRI plays a significant role in long term investment management practices and pension reform in U.K, Australia, France, Germany, Italy, and Sweden. Through SRI, firms that create long term sustainable wealth for the society are identified; second, the value of intangible assets and the ability of management to strengthen their stakeholder relationship are assessed. For example, companies that have invested in balancing personal and organizational development can be identified. Thirdly, risks and liabilities arising from social or environmental factors that are difficult to predict can be evaluated. In February 2005 research study in U.K. it was advocated that CEO compensation should not be based 'solely on short term financial indicators such as earnings per share and stock price, but also on longer term factors needed for "balanced long term success" such as customer satisfaction, employee issues, the environment, and health and safety' (Lydenberg 2005).

Corporate profitability is enhanced by coordinating environmental stewardship and social responsibility with economic sustainability. This has been the aim of Social Investment Forums whose primary focus is on ethical investing. With the attention from legislators, shareholders and consumers, companies are rethinking their operations. The number of companies issuing reports on their environmental accountability as adjunct to their financial disclosures is increasing. A firm's reputation is important to investors, financial analysts, researchers, business teachers, consumers and employees. As this trend continues, investors' demand for stocks considered to be best in their class will continue to increase because baby boomer investors will see these companies as having a better reputation than their counterparts that neglect the practices of SRI.

Genuine corporate social performance requires commitment of economic and human resources. The dichotomy invoked by economists and ethicist on social and financial performance is false. However, good financial performance provides the resources for investments in SRI and corporate social performance is an important component of an organization's strategy.

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# RELATIONSHIP BETWEEN ADVERTISING BUDGET AND INITIAL RETURN ON IPO

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## ABSTRACT

*In the past few years, corporate and product-specific advertisements by many companies were clustered around their Initial Public Offering (IPO) dates. Advertising is one of the ways used by companies to communicate their value to prospective investors (besides financial statement and prospectus). This article seeks to find the rationale behind the use of advertising and to measure the effectiveness of media spending by companies going public. This research bases the success of IPO on first day initial return, which is the difference between first day closing price and offering price. Obviously, there could be other factors influencing initial return. Advertisement could be one of them or it could be just a sign of well-prepared companies who tend to succeed with their IPO. However, evidence from the Thai stock market 2004-2005 shows otherwise. More than half of the companies going public and investing in media before their IPO dates found that their investment in media did not result in positive return.*

***Keywords***: Initial Public Offering; Advertising effectiveness; Thailand Stock Market

## 1. INTRODUCTION

Before and during the time of an initial public offering (IPO), companies tend to air/print/post their advertisements more frequently, whether they are corporate-related or product-, promotion- or campaign-specific. Some companies use media on a regular basis while others use it only once for the purpose of announcing to investors that their companies' stock is or will be available to the public.

The IPO represents the first sale of a company's stock to the public. In Thailand, before a company can go public, it needs to conform to the Securities & Exchange Act (SEA) and gain permission from the Securities & Exchange Commission (SEC). After permission is granted, a company can begin trading its stock on the Stock Exchange of Thailand (SET). The listing procedure is provided in Figure 1.

An average time for the approval process from the setting of the offer price to the issue date is generally two to three months (Wethyavivorn & Koo-Smith, 1991). However, it could be as long as a year. Investors who wish to subscribe in the IPO need to pay in advance and the issuer earns interest on all money deposited, even if the company is over-subscribed (Chowdhry & Sherman, 1996).

The SET actively encourages small investors, defined as an entity holding up to 1% of the listed stock, through the listing requirements of the SEA. Hence, companies applying for listing must allocate between 15-30% of their shares to small investors. Besides, there must be at least 600 small investors for listed stocks and at least 300 for listed companies in provincial zones.

In Thailand, companies normally float around 20% of shares in stock market and keep the rest for dividend reasons.

Information about companies going public for the first time is usually not widely available and hardly analyzed by brokers or researchers. Besides, some of their existing shareholders may possess non-public information. Buying IPO stock is generally more risky than investing in already listed stock (Firth, 1998). Thus, high uncertainty about the true value of new issues and the presence of asymmetric information become factors forcing issuing firms or underwriters to deliberately price their new issues under real value.

When a stock is allowed to be traded, its price becomes market price, which should reflect the company's intrinsic value in an efficient market. However, whether or not the stock exchange is efficient is beyond the scope of this article. Assuming that the market is more efficient than not, one would expect a positive first-day initial return (closing price higher than offer price) when the issue is deliberately under-priced.

In the case where an offer price is carefully set so that when it is multiplied by the number of stocks, the result equates the company's intrinsic value, there is a good chance that its first day initial return would be negative because of uncertainty and asymmetric information mentioned above.

**FIGURE 1: IPO PROCEDURE IN THAILAND**

An applicant possessing all qualifications required by SEA

↓

Prepare an application for listing and a prospectus
(jointly prepared by a financial adviser qualified by SEC)

↓

Submit listing application and other documents to SET

↓

The complete application and required documents are considered
by a committee.
The consideration will be completed within 30 days.

↓

The company whose security approved by the committee may
commence trading within 5 days.

*Source:* The Stock Exchange of Thailand

Companies using advertising would expect to communicate its intrinsic value to investors. If advertising works, then, theoretically at least, the companies' first-day initial return should be positive.

There are several other factors affecting first day initial return on one stock, e.g. time of market entry, industry sector, market sentiment, etc. By focusing only on one factor, advertising budget, this study might not be able to establish a solid conclusion. However, as this factor has not been considered in prior IPO studies, this research hopes to validate the relevance of this factor.

## 2. PURPOSE OF STUDY

This study seeks to determine whether or not any relationship exists between advertisement by companies going public and its first day initial return. Whether or not such relationship exists, company management and investors will have some idea as to how they should plan or look at the advertising budget when it comes to launching/investing in an IPO.

Instead of doing causal analysis, which seeks to find the effect of advertising budget on initial return from IPO, we decided to do a relational analysis because there are many variables affecting initial return on IPO as a many researchers suggest, such as auditor reputation (Beatty 1989), underwriter reputation (Carter, Dark, Singh 1998), governance change & ownership structure (Ehrhardt and Nowak 2003), corporate governance (Gugler, Mueller and Yurtoglu 2004), and so on. Thus, advertising budget alone might not be a sufficient explanatory factor for initial IPO return.

Advertising budget may or may not be possible cause of initial return of IPO. As a possible cause, company management might intentionally spend advertising budget to communicate its value to consumers/investors, boosting demand for the IPO and thus resulting in increased initial return. On the other hand, advertising budget planned for use before and during IPO might be a sign of a well-managed company. The company might have prepared all the matters necessary for the success of its IPO and advertising budget is just one area of its preparation.

## 3. LITERATURE REVIEW

This paper seeks to investigate the impact of advertising budget on the initial return from an IPO. However, many researchers have examined initial return on IPO from a different view, i.e. they see it as how much IPO is under-priced. Therefore, in this section, we will use the word under-pricing and (positive) initial return interchangeably.

Bobinsky and Ramirez (1994) found that at an initial appearance of financial-relations advertisement, trading volume increased but not during subsequent appearance of the ad. Their variable of interest is financial-relations advertisement while our study covers all types of advertisement as investors are assumed to be consumers at the same time. This argument is supported by DuCharme et al.(2003) who supported a "branding hypothesis" (Demers, Lewellen 2003), and they expected that the underpricing of an IPO of a B2C firm should be greater than B2B firms.

According to the existing literature on IPOs and the basic principles of communication theory (Fabris, 1997; Golfetto, 1993), one can expect a positive correlation between the fraction of the offer allocated to non-professional investors (as opposed to that addressed to professional investor) and investment in mass advertising. Mass advertising (TV, press, radio, etc.) is actually more suited for communicating to general public. This correlation would show that marketing is relevant for the IPO when individuals are more heavily involved in the allocation.

Nelson (1974) and Milgrom and Roberts (1986) analyzed the phenomenon according to which a firm employs any visible expenditure to communicate to the consumer the quality of its new good. The IPO's underpricing is a case of such communication.

On the finance side, many researchers have found that IPOs exhibit large initial returns {e.g. Reilly and Hatfield (1969), McDonald and Fisher(1972), Reilly(1973,1977) Loughran and Ritter (2003)}. This casts doubt on whether advertising would have anything to do with initial return as most IPOs already have large initial returns.

## 4. MODEL & HYPOTHESES GENERATION

The following are assumptions underlying this study:

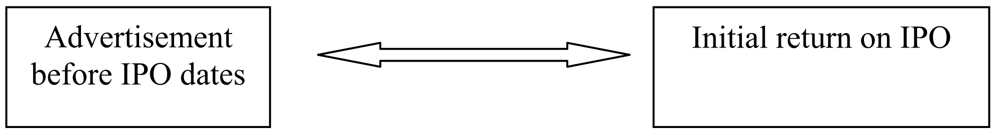
1. Investors base their investment decision on information available to them. Company information could reach investors by various means (e.g. advertisement, point-of-purchase materials, product packaging or label, direct usage experience, word of mouth, event, PR, etc). In the case of IPO, a prospectus is also included.

2. Companies' advertisement, whether it is corporate or product-specific, provides some information to viewers, whether they are investors or consumers or both.

3. Advertisements are not comparable among firms. They differ in type of media, creativeness, frequency, relevancy, approach, tone and manner, etc. Besides, industry type and companies' target audience are different. On the other hand, advertisement budget is comparable because they are in the same unit. We ignore the time value of money because the period of IPO covered by this study is just within 2 years. Thus, we assume minimal effect of interest rate. Therefore, in order to find the relationship between advertising budget and initial return on IPO, we need to overlook all other aspects of advertisement except its budget.

4. Initial return on IPO can be viewed from two different facets. First, one can look at how much the IPO is under-priced. Second, one can determine how much the demand is for IPO. For the first view, there are several studies supporting underpricing theory (e.g. Aggrawal et al (2002), Daily

et al (2003)). These studies argue that investors have little or no information about the IPO and view IPO as a risky asset. Thus, in order to make it attractive to investors, the underwriter would intentionally price the IPO lower than its fair price. On the other hand, companies might choose to invest in advertisement to boost the demand for their IPO. The advertisement could be both corporate and product-specific. Examples of corporate advertising during IPO include Thai Oil Plc. (TOP) and Mass Communication Organization of Thailand (MCOT). Some companies advertise their products, brands or active projects/campaigns during their IPO. Examples include OISHI (food sector), PRIN (property) and WORK (service/entertainment).




5. Theoretically and pragmatically, investors should perform company analysis or research before they make a purchase decision. In Thailand, that might not be the case. The reason could be seen from the country's low P/E ratio when compared to other stock markets in the region. The P/E forecasts by Garry Evans, Pan-Asian Equity Strategist at HSBC (http://www.todayonline.com/articles/107915.asp) for Thailand, Malaysia and Singapore in 2006 were 10.7, 13.5 and 14.3 respectively. Another evidence is that when anyone goes to settrade.com (web site of Settrade Co., Ltd, a subsidiary company of Stock Exchange of Thailand) and click on each individual stock and analyst consensus, one usually finds that the average target price (derived from security company researches) of many stocks is higher than its trading price. This fact leads to an assumption that Thai investors do not rely mainly on formal sources of information and stock price does not necessarily reflect its intrinsic value. (There might be the case that many brokers/researchers are over-optimistic in order to lure investors or to have a story to convince their customers to trade. However, this is beyond the scope of this paper). Thus, advertising might have a role in purchase decision. Some investors would assume that the more they see the company's advertisement, the more well-known, well-planned or well-established the company is in their minds.

## 5. RESEARCH METHODOLOGY

In this study, there are only 2 variables of interest, advertising budget and initial return on first day of trading.

*Initial return of IPO*

Initial return of IPO is calculated as:

$$\frac{\text{Closing price on first trading day – Offering Price}}{\text{Offering price}}$$

This information was obtained from the Stock Exchange of Thailand web site, www.set.or.th.

*Advertising budget*

To be exact, advertising budget of a company is a budget set for use in advertising activities, including cost of devising concepts, research, production and media buying. Some companies also include PR and below-the-line activities (which are now gaining high popularity among consumer product companies in Thailand).

When it comes to advertisement, budgets for devising concept, research and production are quite significant. Based on our past experience, these two items could account for up to 30% of total advertising budget. However, we do not think there is no right or wrong answer to the proportion.

Advertising budget on major media (i.e. TV, radio, newspaper, magazine, billboard and internet) are tracked by Ac Nielsen. However, AC Nielsen uses "rate card" or price list to calculate the value of advertising. Of course, many companies can manage to get big discounts from ad agency but the discount rate is usually confidential. Thus, in this study our best-case information for advertising budget would be rate cart X {air time, space}.

Population and Sample

Data on initial public offering are available for the last 3 years, i.e. 2003, 2004, 2005, from the website of SET (www.set.or.th). In 2003, there were 21 IPOs, most of them having positive initial returns except 2 stocks, namely, IT (Tech) and UVAM (Agro). Therefore, we excluded this set of information from the population because it would not help us see any relationship between advertising and initial return.

Therefore the final sample for this study comprise firms issuing their IPOs in 2004 and 2005. The data was analyzed by media spending (Baht) broken down by month in the year the firm made their IPO.

As the IPO dates are specific but media spending is a monthly lump sum. we classified media spending from January up to a month before IPO month as "Ad budget same year before IPO date" and the remaining as "Ad budget same year before IPO date". For example if IPO date is September 1, 2004. we considered spending from January to October as "before". If IPO date falls between the 21$^{st}$ and 30$^{th}$ of the month, we included spending budget of that month in "before".

If IPO date falls between the 2$^{nd}$ and 10$^{th}$ of the month, we looked at their budget spending pattern. If a company only used advertising in one month out of a year, we assigned that month's budget to "before". But if a company used advertising on regular basis, we assigned that month's budget to "after".

Thereafter, we mapped these pieces of information onto one table and sorted them out in different ways, i.e. by advertising budget (high to low to none), market capitalization, offering size, percentage change (return on IPO) and try to spot any pattern, if exists.

## 6. RESULTS AND FINDINGS

For 2004 and 2005, there were 36 and 35 IPOs respectively. There were 13 firms having negative initial return in each of these years. In 2004, 14 firms were tracked to have spent in media. However, only 10 out of 14 spent before or on their first trading day. In 2005, 12 firms spent before or on their trading day. Of all the 12 firms, 6 of them also spent after their first trading day.

*Amount spent in advertising*

When sorted by advertising budget, 10 firms spent more than 1 million Baht. The highest spending went to TOP (37 million Baht), followed by MCOT (13.3 million Baht) and PS (12.4 million Baht). Among this group, 5 of them (50%) faced negative return (with 1 firm face only –0.49%)

The remaining 12 firms spent between 15,000 – 972,000 Baht. 7 of them (58%) had negative returns. We might assume that under 1 million Baht, advertising might be less effective in boosting positive return. However, the number of firms is too small for us to apply any meaningful statistical analysis.

*Industry sector*

When sorted by industry, 2 firms in AGRO have positive return. OISHI who spent 1.8 million Baht had 12.11% return when compared with KSL who got 2.79% return with no advertisement at all.

In the Financial sector, 3 out of 10 had negative return. Only 1 firm spent in media with 37.9% initial return. However, the highest return in the sector (41.74%) went to a firm who did not spent. Therefore, we found that advertising might not have a relationship with initial return in this sector.

In the Industrial sector, 5 out of 13 faced negative return. The only 2 firms who spent more than 1 million Baht are in this loser group. With some information on hand, they might reckon that advertising will save them out of or sooth their negative return. It is noteworthy that the biggest loser did not spent on media at all in this category.

The largest number of firms came from the PROPCON (property and construction) sector. 24 firms got listed in 2 years and 11 of them spent on media. 12 out of all 24 firms faced negative initial return. Interestingly, 8 out of the 12 loser firms spent on media. We might arrive at the same conclusion as in industrial sector that companies in the PROPCON sector spent because they might have possess some information and want to prevent or alleviate negative return.

In the RESOURCE sector, only 1 out of 4 companies faced negative return. TOP is the biggest spender among all category and successfully gain 37.5% initial return (almost the lowest percentage among others). It is noteworthy that TOP was the second largest IPO in Thai history. Therefore, their media spending might be a sign of a well-prepared company.

In the SERVICE sector, 2 out of 10 the firms faced negative return. 4 out of 10 firms spent in media and only 1 out of the 4 had negative return. For the remaining 6 firms who did not spend, only 1 of them had negative return. The second largest spender of all categories, MCOT, found itself with a positive return. However, its spending was critiqued widely as inappropriate propaganda because MCOT was formerly a state enterprise.

In the last category, TECH, there were 7 firms, 3 of them having negative returns. 2 of them spent in media but only a small amount (120,000 and 351,000 Baht respectively). The lesser spender had a negative return while the other had a positive return. There is not much to imply from this category.

*Overall*

In summary, 22 out of 71 firms spent before or on their first trading day. 12 out of 22 (54%) of the media spenders experienced negative returns while 14 out of 49 (29%) of the non-spenders had negative returns. This suggests that media spenders suffered a greater percentage of loss. We also found that there was no significant correlation between the two variables.

## 7. CONCLUSION & IMPLICATIONS

Although a significant relationship did not exist between initial return and advertising budget, the following trends could be noted:

1. Companies that spent in media seem to possess private information that their stock might face negative initial return. Therefore, they invest in media in order to prevent or sooth out the negative return.

2. Advertisement does not necessarily secure positive returns. Thus, a company going public might consider not spending in media just because other companies have done it.

3. Advertisement is a sign of companies that are getting ready to be listed. We can see several companies spending in media just one bout before and around the IPO date.

4. There are other ways of marketing communication that are not tracked by this study, e.g., public relations and below-the-line activities including road shows. These other means of communication might have a role or relationship with initial return. However, this is suggested for future research.

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**ON-TIME PERFORMANCE AND THE VALUE OF RFID IN CROSS-DOCKING**

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## ABSTRACT

*Performance of cross-docking is mainly determined by the two factors: The first is the efficiency of the technologies selected for handling material and information. The second is how well the coordination and synchronization between inbound and outbound shipments. We develop a new model for studying timing issues when a firm considering adopting RFID to improve the performance of cross-docking. Our model suggests that the value of RFID is positively associated with the on-time performance of inbound and outbound shipments. The result indicates that the RFID technology will create higher value when a firm already has better coordinated and synchronized cross-docking process. Indeed if the firm's current on-time performance in cross-docking is low, the adoption of RFID technology may not be justified. This may explain why the early adopters, such as Wal-mart and U.S. Military, of RFID tend to be the ones with best practices in supply chain and logistics management.*

## 1. INTRODUCTION

Cross-docking is considered one of the most effective practices in supply chain management. For instance, to lower logistics cost, Wal-Mart cross-dock product arriving from suppliers on inbound trucks by breaking each inbound shipment into smaller shipments that are then loaded onto trucks going to each retail store. The practice can save handling costs and products do not have to be moved into and out of storage during shipping. The effectiveness of cross-docking is mainly determined by two factors: First is the efficiency of the technologies selected for handling material and information. Second is the coordination and synchronization between inbound and outbound shipments. Recently Radio Frequency Identification (RFID) technology has been seen to have tremendous potential to revolutionize cross-docking performance in supply chain management. RFID technology offers an automated way to collect information that is valuable for speeding up material handling and logistics processes. The information, such as product, place, time, transaction data, can be recorded quickly without human intervention or error.

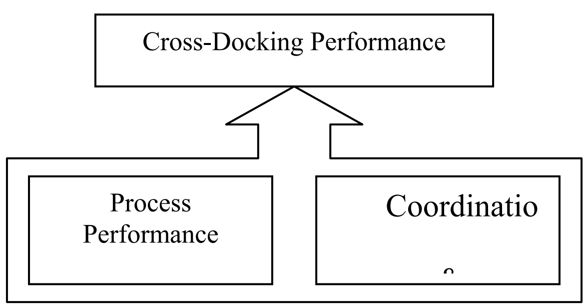


**Figure 1: Factors of cross-docking performance**

In this paper we develop a new model for studying timing issues when a firm considers adopting RFID technology to improve cross-docking performance. Our model suggests that the value of RFID is positively associated with the on-time performance of inbound and outbound shipments. The result indicates that RFID technology will create higher value when a firm already has better coordinated and synchronized cross-docking processes (see Figure 1). Indeed if the firm's current on-time performance in cross-docking is low, the adoption of RFID technology may not be justified. Our model provides a framework for evaluating the value of RFID implementation. It may also help explain why early adopters of RFID technology, such as Wal-mart and the U.S. Military, tend to be the ones with best practices and know-how in supply chain and logistics management.

In general, RFID technology is a technology similar in theory to replace bar code identification. With RFID, the electromagnetic or electrostatic coupling in the RF portion of the electromagnetic spectrum is used to transmit signals. An RFID system consists of an antenna and a transceiver, which read the radio frequency and transfer the information to a processing device, and a transponder, or tag, which is an integrated circuit containing the RF circuitry and information to be transmitted. A major benefit of using RFID in cross-docking is to improve process speed and increase the inventory turn around. This is important because of its impact on both costs and customer service. Although only small number of firms has actually deployed RFID technology, as the technology improves and business cases become clearer, nearly half of North American manufacturing executives expect a high return-on-investment from radio frequency identification projects. According to Allied Business Intelligence, annual shipment volume of RFID tags, or transponders, is expected to grow from 323 million in 2002 to several billion in 2007. The significant advantage of RFID system is the no contact, non-line-of-sight nature of the technology. As a result, RFID systems prosper in visually and environmentally challenging situations where barcodes or other optical technologies would be difficult to apply.

More and more firms, such as retail giant Wal-Mart, are pushing many of their supply chain partners toward widespread conversion of RFID. This initiative is expected to have a dramatic effect on the adoption of RFID in systems across supply chain. The standards are being developed rapidly and costs are dropping substantially as firms move to adopt the technology to avoid any competitive disadvantage. Similar to adopting other new technologies, there are still tremendous hurdles to implementation of an RFID system in logistics. According to AMR Research, widespread use of this new technology is five years away. It is these disadvantages that lead some industry experts to call RFID 'one of the most over-hyped technologies'. Since RFID systems have to be implemented at every link in the supply chain, the most obvious reason to harbor reluctance to RFID is cost when the margins of many industries are already razor thin. Recently, various parties are working toward creating unified standards of RFID technology. Besides the high implementation cost and uncertain return, security and privacy are other issues of adopting RFID (MIT) The contactless interface and constrained computational resources of RFID devices present a unique set of characteristics most closely related to smart cards. Many relevant lessons may be gleaned from the wealth of smart card and tamper resistant hardware research. In the paper in (Abadi et al 1991) discusses a range of smart card protocols and analyzes cost and security trade-offs. Many RFID tags will operate in hostile environments and may be subject to intense physical attacks. Analysis of smart cards operation in hostile environments is presented provides an excellent overview of many physical attacks and countermeasures. Several specific lower cost physical attacks are detailed in (Anderson et al 1997). Many results pertaining to implementation of cryptographic primitives on smart cards apply to RFIDs. Cautionary information regarding implementation of AES in smart cards appears in (Chari et al 1999). Being contactless and passively powered may make RFID devices especially susceptible to fault induction or power analysis attacks. Both (Boneh et al 1997) and (Chari et al 1999) highlight many of these issues in cryptographic devices.

The remainder of the paper is organized as follows. First we briefly discuss the essential components in RFID systems. Next we provide a modeling approach on evaluating the optimal cost in a cross-docking process. After that, we discuss how the value of implementing RFID is affected by the on-time performance that is embedded in a firm's coordination in cross-docking process. We end with some final remarks and research directions.

## 2. RFID SYSTEM AND CROSS-DOCKING PROCESS

### 2.1. RFID System Components

One of the key differences between RFID and bar code technology is RFID eliminates the need for line-of-sight reading that bar coding depends on. Also, RFID scanning can be done at greater distances than bar code scanning. High frequency RFID systems (850 MHz to 950 MHz and 2.4 GHz to 2.5 GHz) offer transmission ranges of more than 90 feet, although wavelengths in the 2.4 GHz range are absorbed by water (the human body) and therefore has limitations. Once the inbound packages have arrived, the tags will trigger automated shorting tracking applications. With its non-line-of-sight characteristic, even with the packaging that will consolidate products, as those shipped to Wal-Mart, the RFID system will be able to read the number of products in each carton or container without opening. Even more revolutionary, the containers can have multiple, irregularly combine products together. Packing lists will be produced automatically as the shipping cartons go through the larger tag readers and the shipment will be ready for freight virtually instantaneously.

From system perspective, an RFID system is comprised of the reader (or interrogator) and the transponders (tag/card) Commonly, the antenna is packaged with the transceiver and decoder to become reader, which can be configured either as a handheld or a fixed-mount device. The reader emits radio waves in ranges anywhere from one inch to 100 feet, depending upon its power output and the radio frequency used. RFID tags are categorized as either active or passive. Active RFID tags are powered by an internal battery and are typically read/write, i.e., tag data can be rewritten. For example, in a work-in-process control system, an active tag might give a machine a set of instructions and the machine would then report its performance to the tag. This updated data then becomes part of the tagged part's process and quality record. Passive RFID tags operate without internal power source and obtain their operating power as it is generated from the reader. For the system to work, when an RFID tag passes through the electromagnetic zone, the tag receives the low powered radio signal via its own antenna to power an embedded integrated circuit. Using the energy it gets from the reader's signal when it enters the electromagnetic field, the tag will briefly converse (or communicate) with the reader for verification and the exchange of data. Passive tags are usually read-only. Once the reader receives that data it can be sent to a controlling computer system for processing and management.

Obviously, RFID has tremendous potential to revolutionize the way supply chain management is performed. RFID systems can be used just about anywhere that a unique identification system is needed, for instances, from clothing tags to missiles to pet tags to food. The tag can carry information as simple as a pet owners name and address or the cleaning instruction on a sweater to as complex as instructions on how to assemble a car. Some auto manufacturers use RFID systems to move cars through an assembly line. At each successive stage of production, the RFID tag tells the computers what the next step of automated assembly is. RFID will help logistics functions operate more efficiently and effectively. However, world-class supply chain firms are currently using it in pilot programs.

A study by the Auto-ID center revealed that logistic service providers could reduce capital needs simply through the closer tracking of picking, sorting, and packing to match the inbound and outbound material. Great cost saving can be achieved by increasing responsiveness, shortening process time due to the improved continuity through out inbound to outbound activities. The estimated savings are of two to eight percent. Wal-Mart is probably the most high-profile user of RFID and could see the quickest financial benefits from the technology, thanks to the economies of scale from its massive retail network. The company has set a deadline of January 2005 for its top 100 suppliers to achieve pallet-and-case-level tagging, with the overall aim to have all its US suppliers on board by 2006. Once the US has been migrated, Wal-Mart intends to motivate European and Canadian suppliers to follow suit.

### 2.2. Modeling Cross-Docking Process

Cross-docking bypasses the storage activity by transferring items directly from the inbound receiving dock to the outbound shipping dick. When a DC cross-docks product, each inbound aggregates products destined for different retail stores on trucks leaving a supplier. At DCs, Wal-Mart uses cross-docking, so that each truck going to retail store has products from different suppliers. A typical cross-docking process is described as below.

1. *Unloading and Receiving* When unloading the freight trucks, the RFID is read and it is checked that the right location is being unloaded. In the store, the RFID can be read as the goods received are transported to the shop floor and / or as they arrive on the correct store floor. In this way, the quantity of goods in the goods inwards area and on the shop floor can be clearly seen. By improving the delivery of end products it is no longer necessary to hold large stocks of end products. This in turn reduces the income loss due to not having end products in stock. By reading the ID and / or freight truck as they enter the distribution centre site, it is possible to process the trucks faster. This makes it possible to reduce waiting times at the distribution centre. When unloading the trucks, the ID's are read as they pass through the door to the

loading bay. If necessary they can be directly cross-docked, meaning that the freight trucks can be emptied faster.

2. *Sorting and Repacking* When goods are received, the employees transport the pallets from the truck through an RFID gate at the back-store entrance. The data on the chips for each pallet and crate are read and all the products are registered as “received in the dock.” The employees can compare the received goods with the order and can immediately confirm if something is missing or if the delivered quantities do not match the ordered quantities. The goods delivered are kept in storage at the backroom of the store. When storing the goods, employees read the RFID tag on the pallets and crates, as well as the RFID tag equipped with the corresponding storage position, into the RFID goods flow system. This way, the current inventory—goods, quantities, and location in the backroom—are recorded and can be retrieved at any time. The checking process is simplified because the number of ID's and the information about the goods is directly available on the ID as it is unloaded. This makes it possible to directly cross-dock goods. Repacking (unpacking and repacking) similar types of products in crates on a pallet into different types of products in crates on an pallet can be checked more easily and quickly by reading the pallet ID and the stacked crates ID. The combination of RTI crates per RTI pallet must agree with the repacking planning in the warehouse management system (such as crates sorted by store floor), this means that repacking errors can be minimized.

3. *Loading and Departure* Before delivery to the store, goods are sorted on pallets in a central warehouse. The pallets and cartons are provided with an RFID tag. The integrated RFID chip in the tag contains the bar code for the respective good and the number of the pallet and carton. Warehouse employees read these data into the goods flow system. From this point, the goods are registered with the respective information in the system. Their locations can thus be tracked throughout the entire logistic chain to the sales room of the retailer. For further transport, the loaded pallets are taken to the exit zone of the central warehouse, where an RFID reading device called an electronic gate is installed. When passing this gate, the chips on the cartons and pallets are read and the data transmitted to the RFID goods flow system. The goods now have the status “on the way to the target store by truck.” Optimized inventory management reduces the number of wrong deliveries and lowers the risk of theft because each carton is registered. By scanning the ID when loading the freight truck, it is possible to check that the right freights have been loaded. This reduces loading errors to a minimum. As the freight truck leaves the site, all the information is read (including the freight truck) which means that site security can extend right to the boundary of the site without delaying the freight traffic at all.

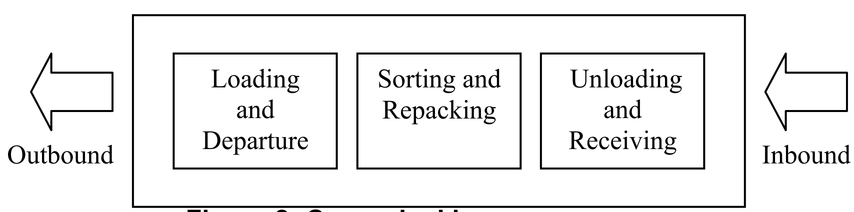


**Figure 2: Cross-docking processes**

Based on the observation above (also see Figure 2), next we model the process as follows. We first consider a cross-docking process with one inbound source and $M$ outbound sources. This simplification allows us to exclude the issue of congestion caused by multiple-inbound traffic. In practice, one can consider this as the use of one large truck to bring supplies into a Distribution Center close to a particular market place and these supplies will then be broken down and shipped to individual stores by smaller delivery vehicles.

Let $q$ be the quantity of inbound shipments and $q^{(m)}$ be the quantity of $m$-th outbound shipments. We then get

$$q = \sum_{m=1}^{M} q^{(m)}$$

We then denote the arrival time of scheduled inbound and *m*-th outbound shipping as random variables $T_I$ and $T_O^{(m)}$. To model the on-time or synchronization performance, we define that

$$\Delta^{(m)} = T_O^{(m)} - T_I,$$

where

$$F^{(m)}(\delta)=\text{Prob}(\Delta^{(m)} \le \delta)$$
$$f^{(m)}(\delta)=\text{Prob}(\Delta^{(m)} = \delta)$$

We consider a situation that three types of costs need to be allocated when processing *q* units good through the cross-docking. The first is the handling cost. Given a cross-docking technology, the unit process cost is a constant. Note that the handling cost $H(k, q^{(m)})$ includes variable cost and the proportional share of overhead. The process is characterized by throughput.

$$H_k^{(m)} = H(k, q^{(m)})$$

The second type of cost is related to the buffering of outbound goods. The need for buffering is because the timing of inbound traffic and outbound traffic may not be fully synchronized. When there is error in on-time performance, there is chance that the outbound goods may be ready before the outbound delivering vehicles arrive. This can be caused by earlier-than-schedule inbound traffic or later-than-schedule outbound traffics.
Where

$$B(m,k) = \int_0^{t_k} b^{(m)} \frac{q^{(m)}(\delta - t_k)}{t_k} f^{(m)}(\delta) d\delta + \int_{t_k}^{\infty} b^{(m)} q^{(m)}(\delta - t_k) f^{(m)}(\delta) d\delta$$

Similarly, there is chance that the outbound goods may not be ready before the outbound delivering vehicles arrive. This can be caused by later-than-schedule inbound traffic or earlier-than-schedule outbound traffics. Therefore, we define the waiting cost as

$$W(m,k) = q^{(m)} \int_{-\infty}^{t_k} w^{(m)}(t_k - \delta) f^{(m)}(\delta) d\delta$$

Finally, given a handling technology *k* (e.g., barcode vs. RFID), let $H(q^{(m)}, k)$ be denoted as the handling cost of *m*-th outbound shipment with a throughput $t_k^{-1}$. Define $B(m, k)$ and $W(m^{)}, k)$ as the buffering cost and waiting cost, respectively. We get the objective function of cross-docking with optimal timing:

$$Z_k = \sum_{m=1}^{M} H(q^{(m)}, k) + \min_{\{\Delta^{(m)}\}} \sum_{m=1}^{M} \left[ B(m,k) + W(m,k) \right]$$

## 3. ON-TIME PERFORMANCE AND THE VALUE OF RFID

Generally, the RFID implementation provides retailers with the following benefits:

- Simplifies ordering, delivery, and warehousing of merchandise, making it possible to track the transport and location of merchandise throughout the supply chain
- Increases cost savings by reducing the number of wrong deliveries and lowering the risk of thefts
- Reduces inventory shrinkage by marking product groups and individual packing units with RFID labels so that they can be identified and located more easily and exactly, making it possible to document the path of goods from the manufacturer via intermediate storage to the sales room
- Reduces costs for information technology (IT) infrastructure, security, servers, installation, interface to other systems, and business intelligence

While RFID may be the next technological frontier, navigating early adoption can be daunting and need to understand the technology tradeoffs, and how business processes will have to change to accelerate operational payback. In the rest of the paper, we discuss how the value is affected by the on-time performance (i.e., the variance of $\Delta^{(m)}$ ) that is embedded in a firm's cross-docking process. In order to make comparison, we also need to compare the value provide by the performance of existing bar-code system and explain the following two questions: What factors will affect the value of implementing RFID system? Under what circumstance the RFID system can create better value. We conclude that RFID system will create higher value when a firm already has better coordinated and synchronized cross-docking processes. Indeed if the firm's current on-time performance in cross-docking is low, the adoption of RFID technology may not be justified.

When considering two handling technologies: Barcode vs. RFID (i.e., $k \in \{B, R\}$), we define the value of implementing RFID as

$$V = Z_B - Z_R$$

Figure 3 shows that the value of implementing RFID technology is determined by the variance of $\Delta^{(m)}$. That means, besides shorter process time and higher through put, successful cross-docking also require a significant degree of coordination and synchronization between the incoming and outgoing shipments.

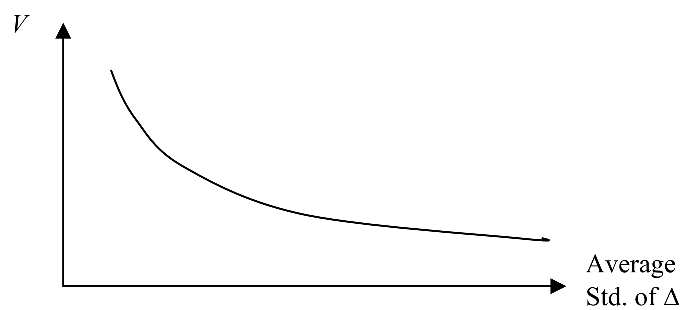


**Figure 3: Value of implementing RFID vs. on-time performance**

In addition, using RFID technology makes it possible to register and document inventory-relevant goods movement and booking processes across the goods flow chain, from the central warehouse to the shelf, tracking the location of each individual product. Goods can be reordered according to demand, and the number of wrong deliveries is considerably reduced. Invariably, the firm implementing the process must be aware of the capabilities and level of improvements that the technology will provide. Just as in the adoption of other high technology tools that changed the way business is performed, the value of the new methods may vary significantly due to other operational factors. Retailers are under relentless pressure to streamline processes, survive shrinking profits, shepherd inventory, summon up innovative sales and marketing programs, and share information in real time across store, channel, and system boundaries. Managing inventory well is vital. Getting key products on the shelf and turning inventory at or above plan is what makes or breaks a retail operation. Good inventory management depends upon consolidating, integrating, and analyzing massive amounts of data from many sources—stores, suppliers, and warehouses. The cost of lost revenue opportunity, measured by a leading consumer package goods audit firm, suggests that inventory out of stock situations can account for up to a staggering 20 percent of lost sales. Inventory shrinkage is another problem. When inventory is lost or stolen, the cost must be added to the remaining stock—increasing prices, which decreases the store's competitiveness in the market. The more products a retailer carries, the more challenging it is to manage and avoid shrinkage, which in turn increases labor costs, again adding costs that reduce competitiveness.

It could be argued that these coordination and synchronization are short-run decisions whereas implementing RFID is part of the firm's long-run strategic plans on supply chain. Therefore, the firm's performance on coordination and synchronization should not be relevant to the RFID decision because the strategic decisions need to be made first. This separation however not acceptable since strategic implementation of RFID system must be evaluated conditionally upon its operational benefits, which, in turn, depends on the level of synchronization, such as on-time performance of both inbound delivery and outbound shipment. Our model shows that this improvement will be conditioned by the level of coordination and synchronization of its supply chain.

## 4. CONCLUSION

Due to past developmental issues, lack of production standards and proprietary concerns, RFID was a costly and complicated technology. RFID technology provides the promising characteristics, such as reduction of out of stocks through better inventory management, increasing inventory turns, improved order fill-rate, and reduction in warehousing operating costs. Applications that make use of RFID's features and capabilities are demonstrating significant process improvements through implementing this technology. Industry experts view RFID as a complement to bar code technology—in many cases, such as tracking pallets, cartons, and cases in a warehouse, both technologies are used. RFID technology, in fact, overcomes certain limitations found in some bar code applications. Because it is not an optical technology like bar coding, no inherent line of sight is required between the reader and the tagged RFID object. In addition, RFID transmits data wirelessly and is a "read-write" technology, so it can update or change the data encoded in the tag during the tracking cycle. When implements RFID technology, it is possible to register and document inventory relevant goods movement and booking processes across the goods flow chain in the central warehouse. The firms also need to understand the ramifications of the technology to the entire supply chain. Continually improving technology will steadily blur the line between RFID devices, smart cards and ubiquitous computers. Research benefiting the security of RFID devices will help pave the way for a universal, secure ubiquitous computing system. Developments related to RFID tags and other embedded systems may all contribute to the creation of a robust and secure infrastructure offering many exciting potential applications. The effort has been fueled by the potential economic impact of inexpensive, ubiquitous item identification in the supply chain. The roadmap towards cheap tags has been laid out, but like any research effort, uncertainty is a part of the challenge.

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# ORGANIZATIONAL BUYERS ON THE ROMANIAN MARKET AND THEIR ACTUAL PROBLEMS

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***ABSTRACT***

*The study is based on a research done on a sample of small and medium enterprises situated in Transylvania region. The research was oriented towards the discovery of the way the Romanian companies understood to organize their activity on the inputs market in the context of decentralised economy. This study was intended to probe the way the Romanian companies have had the capacity to adapt to the specific conditions of market economy (how they select their suppliers, which are the main criteria they use for this, and how acute is their preoccupation for building and maintaining good relations with them).*

***Key words:***
*Suppliers, selection, criteria, relations, cooperation*

## 1. INTRODUCTION

The changes that took place in Romania at the end of 1989 at the political level have brought profound changes in the economic mechanism. From that moment on, the Romanian economy has got on the road of total economic reform. In this way there appeared new small and medium enterprises with local, foreign or mixed capital, and from those created before 1989 have remained in function (although in another context) less than 22% (table 1).

**Table 1 THE DISTRIBUTION OF STUDIED ENTREPRISES AFTER THE YEAR OF FOUNDATION**

| Specification | Non-responses | Before 1989 | 1990-1991 | 1992-1996 | 1997-2000 | 2001-2004 | Total (%) |
|---|---|---|---|---|---|---|---|
| Percentage (%) | 1.78 | 21.89 | 13.91 | 35.80 | 17.46 | 9.17 | 100 |

Together with the passing to market economy, the functions related to provision of material resources began to copy the better practices, already well-known in western economies. Although the practice of the economically developed countries in the acquisitions field is not completely unknown to Romania, these changes do not occur in our economy quickly and without troubles. The difficulty resides in that the Romanian enterprises must cover, in a relatively short period of time, the enormous distance from functioning in a centralised economy to a proactive market orientation, specific to a free market. In order to better cover this distance, a favourable environment, specific knowledge, adequate mentality and managerial, financial and human potential are required. To overcome as soon as possible the difficulties the Romanian companies have been dealing with during this period is not just one option out of many others available in the business environment, but it is a prerequisite for their survival in the new context of the market economy. Of course, during this period there are a huge number of firms which are not capable of coping with these changes. Generally, these firms make the mistake of not planning their activity according to the external changes, not understanding that the present business environment is characterised by change. There are enterprises that react only when the changes in the environment began to produce consequences on their activity. Reactive enterprises, which do not succeed in adapting themselves to the changes in their external environment, are the “species” doomed, in the evolutionary process of the Romanian economy, to extinction.

As experience is accumulated in a market economy, the progressive enterprises understand that, in order to succeed in the present conjuncture, they must adopt a proactive, disciplined and systematic approach of the market, both in upstream and in downstream of production, to set carefully selected priorities, to strictly allocate resources and sometimes to make compromises that require a lot of discernment.

Some legitimate questions arise regarding the way the Romanian companies succeed or not in moving towards a proactive orientation regarding material resources acquisition and the cultivation of good relationships with the suppliers, such as: Does the diversity of the offer, the increased competition, the freedom of action help them progress? Can they easily change the reactive orientation of material resources acquisition for a proactive one, or do the traditional practices survive together with the superficial changes of the business environment?

Through this investigation we tried to find out the answers to the above mentioned questions, being inspired by the findings of Michiel R. Leenders and David L. Blenkhorn (1988), Garz J. Zenz (1987), Donald W. Dobler, David N. Burt and Lamar Lee Jr. (1990), Stuart Heinritz, Paul V. Farrell, Larry Giunipero and Michael Kolchin (1991).

## 2. RESEARCH METHODOLOGY

The information used for the accomplishment of this investigation was collected using a questionnaire administered in 338 small and medium enterprises. The interview operators were the students at the Faculty of Economic Sciences and Business Administration of „Babeş-Bolyai" University Cluj-Napoca. The students were either having an intern-ship in those firms or living in the localities where the companies had their headquarters. The enterprises included in the study were selected from the Transylvania region using the lists of the Chambers of Commerce and Industry from the counties included in the research (Alba, Arad, Bihor, Bistrița-Năsăud, Braşov, Covasna, Cluj, Harghita, Hunedoara, Mureş, Sălaj and Sibiu). After a pilot study of 20 enterprises, the questionnaire was completed, reaching a number of 15 questions related to the field of buyers-suppliers relationships.

The applied questionnaire is a part of a more ample research of small and medium enterprises. The research is approached with a set of 20 questionnaires, each built for a certain field of activity of these enterprises. In other words, our research is a part of an extensive one that is oriented towards the factors influencing the efficiency of strategic leadership in small and medium enterprises in the reflection of globalisation and regionalism. The questionnaire was filled in July 2004. All the 20 questionnaires have been applied at the same time. Their completion was done by specialists from various fields of activity of the investigated firms. As a rule, the questionnaire used in our study was filled in by the managers of the supply departments of the analysed companies. Given the responsibility in the enterprise of the persons that completed the questionnaire, we tend to give a high credibility to the received answers. Out of the 400 enterprises included in the sample, 338 answered all the questions, with a response rate of 84.5%. The high rate of response is owed to a great extent to the applied method.

### 2.1 Sample characteristics

We consider that the used sample is representative for the studied region. And to a great extent the findings of the research could be appreciated as being proper for the entire Romanian market. It ensures a proper analysis base of the way managers of small and medium enterprises approach the upstream market, of the way they have understood to make the acquisition of the necessary material resources, of the way they are prepared to function in a competitive market economy.

### 2.2 The results of the research

In a normal commercial relationship, the buyers should understand that the suppliers are an extension of their own production capacities. This is the normal reaction of the buyers to the pressure of a new and dynamic economy. They can overcome the difficulties of adaptation to the market economy, which is strongly competitive, only by cooperating with their suppliers. In this context, a more dramatic change is needed: from a relationship between buyers and sellers is needed, to a relationship that must be mainly based on partnership arrangements. Partnership is, however, successful if the partners divide both the necessary work for the achievement of values and the resulted profit.

*Short general description*

The research revealed a variety of dimensions of the Romanian small and medium enterprises (table 2), with a slight tendency for a higher percentage of those with greater dimensions. Among the companies with 50 to 250 employees, and particularly with over 250 employees, a significant percentage of them have been created before 1989. The more recent orientation is towards the foundation of small firms, followed by medium ones and more rarely investments are made in enterprises of extensive dimensions.

**Table 2 THE DISTRIBUTION OF THE ENTREPRISIS AFTER THE NUMBER OF EMPLOYEES AND THE YEAR OF FOUNDATION**

| No. employees/ Foundation year | 1-9 (%) | 10-49 (%) | 50-250 (%) | Over 250 (%) |
|---|---|---|---|---|
| Before 1989 | 2.85 | 2.7 | 20.9 | 62.68 |
| Between1990-1991 | 8.57 | 12.61 | 15.45 | 17.31 |
| Between 1992-1996 | 40.00 | 46.85 | 42.74 | 10.67 |
| Between 1997-2000 | 28.58 | 26.13 | 13.64 | 6.67 |
| Between 2001-2004 | 20.00 | 11.71 | 7.27 | 2.67 |
| Total (%) | 100.00 | 100.00 | 100.00 | 100.00 |

Although the general opinion is that in this fairly short period of time after 1989 investors have been mainly interested in commercial activities, due to higher profitability of this sector, the research shows that the greatest share of the small and medium enterprises (table 3) act in the production field (57.99%) while in that of services only 21.01%. The overwhelming majority of the enterprises (83.78%) founded before 1989 are, however in the field of production, representing 31.63% of the total number of those still existing in this sector. There is, nevertheless, in the recent 10 years, a more pronounced tendency of emergence of new firms in the services and commerce sector more than in that of production.

**Table 3 THE DISTRIBUTION OF THE STUDIED ENTREPRISES AFTER THE FIELD OF ACTIVITY AND THE YEAR OF FOUNDATION**

| Field of activity/ Year of foundation | Production (%) | Services (%) | Commerce (%) |
|---|---|---|---|
| Before 1989 | 31.63 | 12.68 | 4.62 |
| Between 1990- 1991 | 16.84 | 8.45 | 12.30 |
| Between 1992-1996 | 32.14 | 39.44 | 46.15 |
| Between 1997-2000 | 13.27 | 25.35 | 23.08 |
| Between 2001-2004 | 6.12 | 14.08 | 13.85 |
| Total (%) | 100.00 | 100.00 | 100.00 |

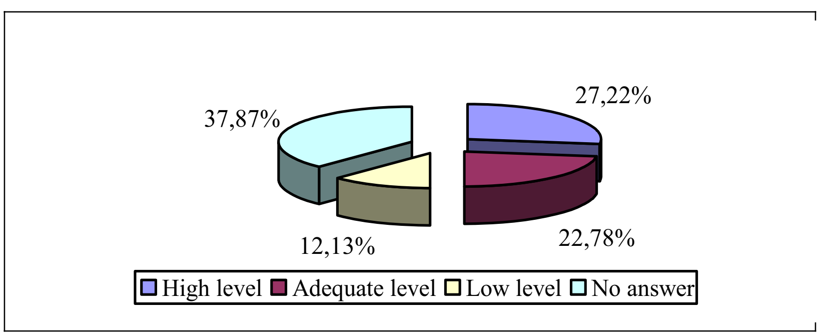


**Figure No. 1 THE DISTRIBUTION OF THE STUDIED ENTREPRISES AFTER THEIR SELF-EVALUATION OF THE TECHNICAL LEVEL OF THE MACHINES AND EQUIPMENTS**

The subjective evaluation of the technical level of the machines and equipments existing in the small and medium enterprises shows that only half of these have an adequate or a high level (Figure No.1). There still are a fairly high percentage of those that have a low level of technical equipment (12.13%) and of those that do not even know (37.87%) how to consider their situation from this point of view.

The preoccupation for the renewal of production capacities has been primarily oriented in the latest years towards the acquisition of machinery, equipments and technology and also frequently towards buildings acquisition (table 4).

**Table 4 THE DISTRIBUTION OF THE STUDIED ENTREPRISES AFTER THE NATURE OF THE DEVELOPMENT ACTIONS ACCOMPLISHED**

| Specification | Investments in real estate/ buildings | Investments in machines/ equipments and technology | Investments in buildings, machines, equipments and technology | Rental of machines/ buildings |
|---|---|---|---|---|
| Percentage (%) | 10.95 | 26.63 | 30.47 | 1.48 |

*The relationships with the suppliers*

The aim of a careful selection of the suppliers is that of finding the most satisfactory source or group of alternative sources with adequate and reasonably comparable qualifications. Thus, when it is needed, successive orders may be launched to any of these suppliers for the same article, believing that the offer will be acceptable. In other words, a continuous preoccupation for the cultivation and maintaining good relationships with the interested suppliers is necessary. It is expected that these relationships should improve themselves along with accumulated experience, and increase by mutual understanding. The acquisitions manager should realize the necessity to make all the required efforts for the continuous improvement of those relationships. The elements that contribute to such amelioration include:

- The accuracy of the communication regarding the description of the need, and of the way the material or product was bought;
- The capacity of mutual understanding of the conditions and the problems that the user and the producer have, which is a result of that communication process;
- The mutual trust in the statements and intentions of both parties;
- Mutual considerations – without unreasonable claims;
- The cooperation – an active and permanent effort for the achievement of contractual obligations;
- The continuous improvement of ordering methods and of services provided by the suppliers, as such opportunities appear;
- The cultivation of personal contacts between the representatives of the buyers and suppliers.

The research underlined that, as the size of the company increases, the interest of the managers in the development and implementation of a certain policy in the relationships with the suppliers, increase (table 5). What is most surprising is the fact that there is a relatively high percentage of the enterprises (12.72%), which have not realized yet the importance of the relations between the buyers and the providers of material resources.

**Table 5 THE DISTRIBUTION OF THE STUDIED ENTREPRISES AFTER DIMENSION, DEPENDING ON THE WAY THEIR RELATIONS WITH THE SUPPLIERSREFLECT THEIR OWN BUSINESS POLICY**

| Number of employees / Relation reflects the policy of the firm | YES (%) | NO (%) | Do not know (%) | Total (%) |
|---|---|---|---|---|
| 1-9 | 68.57 | 22.86 | 8.57 | 100 |
| 10-49 | 83.78 | 14.41 | 1.81 | 100 |
| 50-250 | 90.00 | 7.28 | 2.72 | 100 |
| Over 250 | 96.00 | 2.67 | 1.33 | 100 |
| Total (%) | 87.28 | 10.06 | 2.66 | 100 |

The preoccupation for the formulation and implementation of a specific policy concerning the relations with the suppliers are essential aspects of the activity of enterprises, which will have definite repercussions on the mode and efficiency the inputs are provided. In our case, the fact that there is an almost general interest in the quality of this type of relations does not entirely solve the problems that may appear in the flux of material resources furnishing (Figure No. 2). The study shows that at least 34.02% of the buyers have had in the last year difficulties in the procurement process.

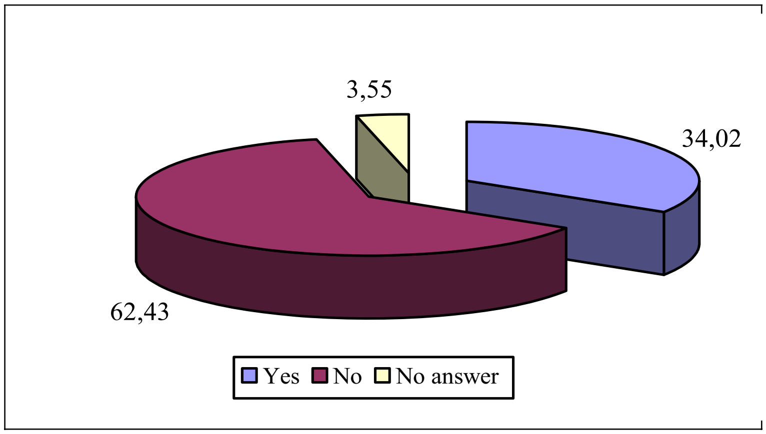


**Figure No. 2 THE DISTRIBUTION OF THE STUDIED ENTREPRISES, AFTER THE EXISTENCE OR NOT IN THEIR ACTIVITY, IN THE PAST YEAR, OF DISTURBANCE CAUSED BY SUPPLIERS**

Moreover, at least 35.8% of the buyers faced the situation of refusing the batches of materials that had been shipped by their suppliers (Figure No. 3) because of inadequate quality.

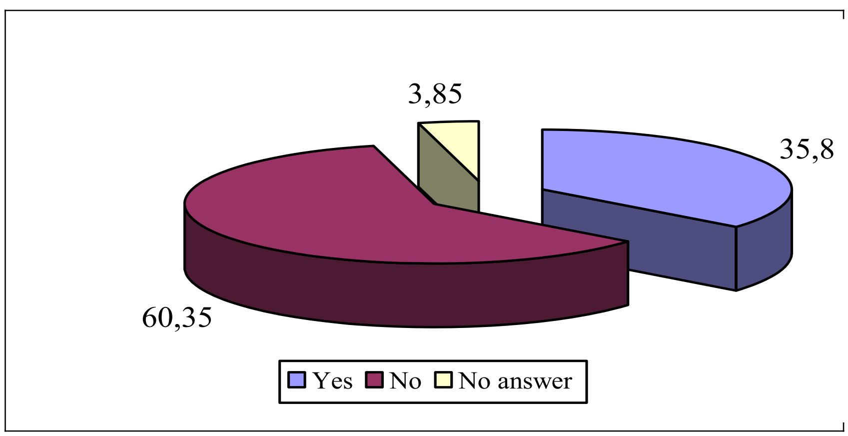


**Figure No. 3 THE DISTRIBUTION OF THE STUDIED ENTREPRISES, AFTER THE EXISTENCE OR NOT IN THEIR ACTIVITY, OF REFUSED LOTS OF INADEQUATE RAW MATERIALS**

One of the selection methods of good suppliers is that of auditing the potential suppliers' clients before entering in business relations with a certain source. To the extent the previous clients' impressions are correct, they may represent a useful orientation point in the selection process of new suppliers. Although the studied buyers had enough troubles with their suppliers, the research shows that, before selecting them as business partners, most buyers frequently audit the clients of the main suppliers (Figure No.4). There are, however, a high number of buyers (18.93%) which are not interested in such measures.

It is considered that the best way of avoiding the problems that may appear in the field of material resources procurement is by correctly selecting the sources. Since the selection of the suppliers is the essence of the buying process, it is imperative that the final authority be given to the supply department. If the selection of the source is improper, the goods and services bought will be inferior, and the departments that use them will be dissatisfied. Under these circumstances the control over the buying process is lost to a great extent, the intensity of the competition decreases, the conflicts among departments and between the firm and its clients develop, the moral climate suffers, and the costs augment. That is why the selection of the source is crucial and probably it is the most important decision made by the personnel involved in the acquisition. Of course, the effort required in this direction depends on the importance of the deal that is going to be transacted. In the selection process, the suppliers are compared according to their capacity to provide the needed quality, quantity, price and appropriate services.

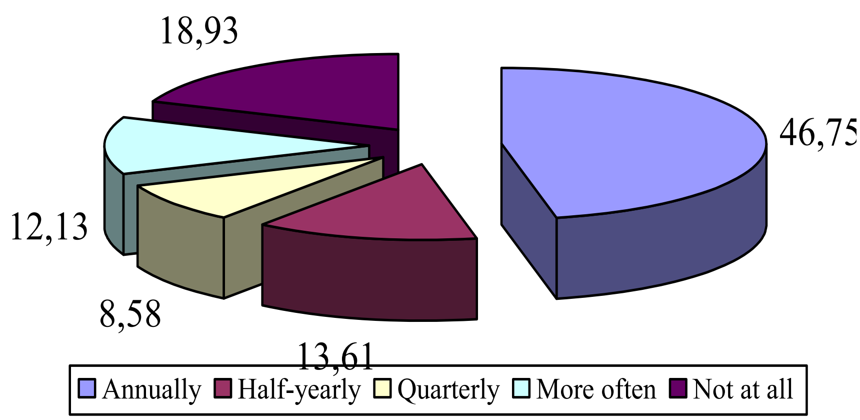


**Figure No. 4 THE DISTRIBUTION OF THE STUDIED ENTREPRISES, AFTER THE FREQUENCY IN AUDITING THE CLIENTS OF THE MAIN SUPPLIERS**

Our research revealed that most buyers in the Romanian enterprises are primarily interested in the quality (55.33%) of the acquired resources (table 6), secondly in their price and thirdly in the punctuality of the suppliers in accomplishing the contracted tasks. In the buying context, quality refers to matching an article for the intended use; that is why quality must be evaluated taking into account the way the article will be utilised. The study shows that, together with the entrance of technical progress in the Romanian companies, the tendency to consider the quality as being the main criterion for the evaluation of suppliers, extends. The quality of goods and services is to a greater extent seen as an eliminatory condition, and any supplier must prove it can fulfil it in order to convince it deserves to be taken into consideration. There is clear evidence of the fact that the Romanian enterprises have begun to attribute a greater importance to quality, but, of course, it will take time before this business approach will be generalised.

A healthy selection of the suppliers can only be made using more that one criterion. For this purpose it is usually used a global indicator that results from the evaluation of more important characteristics of the specific offer, influenced with certain degrees of importance for the buyer, given to each of them. As a consequence, even if they give priority to one or another criterion in evaluating the suppliers, most firms (Figure No. 5) simultaneously raise the problem of a sort of hierarchy of the potential sources (63.91%)

**Table 6 THE DISTRIBUTION OF THE ENTERPRISES, AFTER THE CRITERIA USED FOR THE EVALUATION OF SUPPLIERS AND AFTER THE PRIORITY ORDER ACCORDING TO THE GIVEN IMPORTANCE**

Percentage (%)

| Specification | Price | Quality | Punctuality | Do not evaluate | Total |
|---|---|---|---|---|---|
| Criterion I | 32.50 | 55.33 | 5.03 | 7.40 | 100 |
| Criterion II | 45.56 | 25.15 | 20.12 | 9.17 | 100 |
| Criterion III | 14.50 | 11.54 | 44.08 | 29.88 | 100 |

and, in the end, the granting of priority in the decision of doing business with them. Unfortunately, there still exist many companies that are not interested in selecting the suppliers on a competitive base (30.47%), while others give the impression they have not even thought that such a strategy in the buying of the necessary material resources can be approached (5.62%).

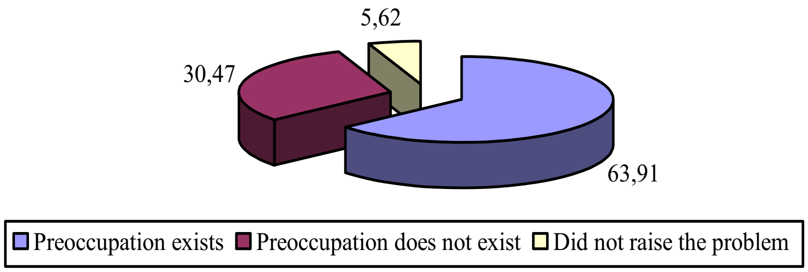


**Figure No. 5 THE DISTRIBUTION OF THE STUDIED ENTERPRISES, AFTER THEIR PREOCUPATION FOR ESTABILISHING A CERTAIN PRIORITY IN SELECTING THE SUPPLIERS**

Experienced buyers often assert that the finding of suitable provider is the sole fundamental responsibility in the field of material resource procurement and that, if done professionally, all other important problems are self-solved. Likewise, the opinion that the "proper relation" is an equally important reason for the buyer as the "right supplier" is more and more spreaded. In the same time, the more important the promotion of good relationships with the suppliers is, the more complex the activity that may accomplish such a goal is. Our study reveals (table 7) that there are relatively few enterprises with less that 10 (25.15%), respectively 50 (34.62%) suppliers. All the others have over 50, while some of them have over 500 suppliers. Maintaining good relations with a few tens or hundreds of current or potential suppliers is an extremely useful preoccupation of the buyers, but in the same time, a financial resource and time-consuming one. Nevertheless, experience shows that these costs are worth paying and that in competitive economy, long-time survival is conditioned by them.

**Table 7 THE DISTRIBUTION OF THE ENTERPRISES AFTER THE NUMBER OF CURRENT SUPPLIERS**

| Specification | Between 1-10 | Between 11-50 | Between 51-100 | Between 101-500 | Over 500 | Don't know | Total |
|---|---|---|---|---|---|---|---|
| Percentage (%) | 25.15 | 34.62 | 12.72 | 15.98 | 3.85 | 7.68 | 100 |

Many buyers (34.32%) may increase their exigency for their suppliers to a limited extent, because as there is no competition between their owners on the market of needed resources. On short term, the lack of competition among the suppliers of a company (Figure No. 6) determines the buyers to be less demanding when applying the selection criteria to providers. On long term, however, we consider that this aspect will be self-solved by the pressure exerted on the enterprises by the functioning rules of market economy. Of course, the fact that 3.55% of the acquisition managers do not even know whether competition in upstream market exists, raises serious question marks regarding the quality of management in those enterprises.

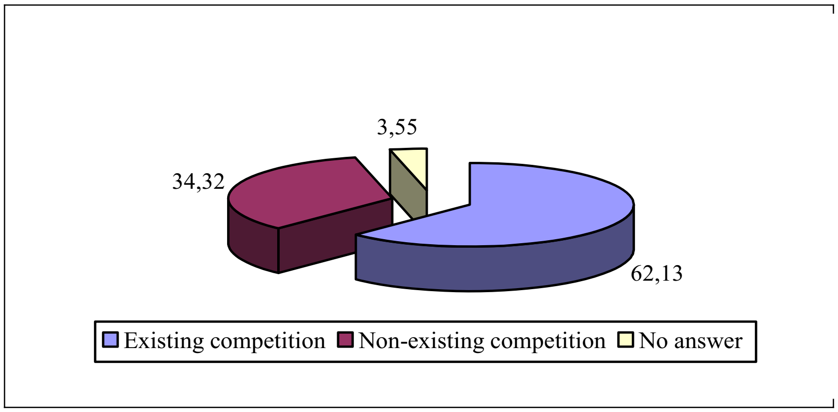


**Figure No. 6 THE DISTRIBUTION OF THE STUDIED ENTERPRISES, AFTER THE EXISTENCE OR NOT OF A COMPETITION AMONG THEIR SUPPLIERS**

The lack of competition on the resources market explains the small number of enterprises (12.13%) that are satisfied with their current suppliers and are willing to help them in their development. Most of them (84.62%) are preoccupied with the discovery of new sources of supplies and, possibly, with the enlargement of supplying possibilities (Figure No. 7). There are, for the moment, many Romanian enterprises that deliberately buy a certain resource from only one supplier. They use the so-called method of "unique source", which is fairly popular. But, such a decision is not always beneficial for the company. In business, circumstances when it is better to have more than one source of supplies frequently appear. In the mean time, there are cases when only one supplier can be used, because there is no other option or maybe because there is a technical or economic monopoly. In other situations, there are only a few real alternatives, because the purchased quantity is too small to be worth the effort of being divided, or because a provider is the best and has no real competitors. The reality is that each of the two alternatives can be beneficial in certain situations. Among the reasons that need to be evaluated in choosing one or more sources of supplies for a resource are: the produced effect on the price, on the security in procurement, on the motivation of the supplier in participating in that transaction and on the structure of that market; the procurement from a unique source will lead to a monopoly in the cases that all the alternative suppliers on the market would disappear. Incompatible with the contemporary circumstances of the business world is the fact that 3.25% of the enterprises are not at all preoccupied with the development of a network of suppliers, and not the fact that they use one or more sources for buying a certain resource.

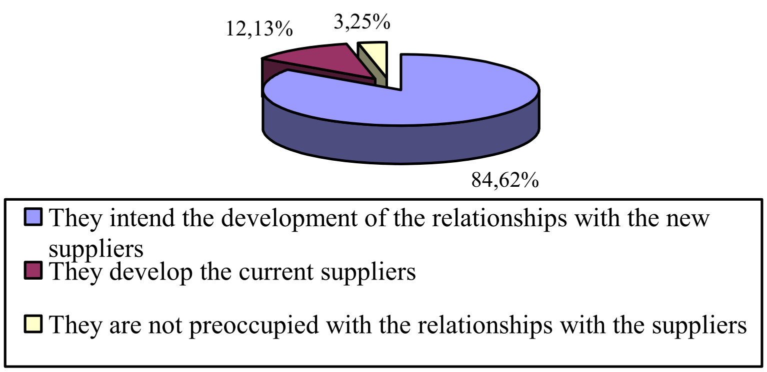


**Figure No. 7 THE DISTRIBUTION OF THE ENTERPRISES, AFTER THE EXPRESSED PREOCCUPATIONS CONCERNING THE DEVELOPMENT OF THE SUPPLIERS'NETWORK**

The idea of a good collaboration with suppliers may be outlined in reality only if the enterprises have developed an adequate information system. Among the firms included in the studied sample (Figure No. 8), the majority (55.33%) owns an intranet. Regarding the connection of the acquisition department to the

IT system, things are different; in only 15.1% (5) of the cases this aspect is favourably solved. The cultivation and maintaining of positive relationships with the suppliers require, in the first place, a certain quality of the communication between the two sides and, in this context, the connection of the acquisition agents to the IT system is essential. There where there is no intranet (at least 43.19% of the cases), the communication among departments is deficient and the consequences have impact on the supplying process as well.

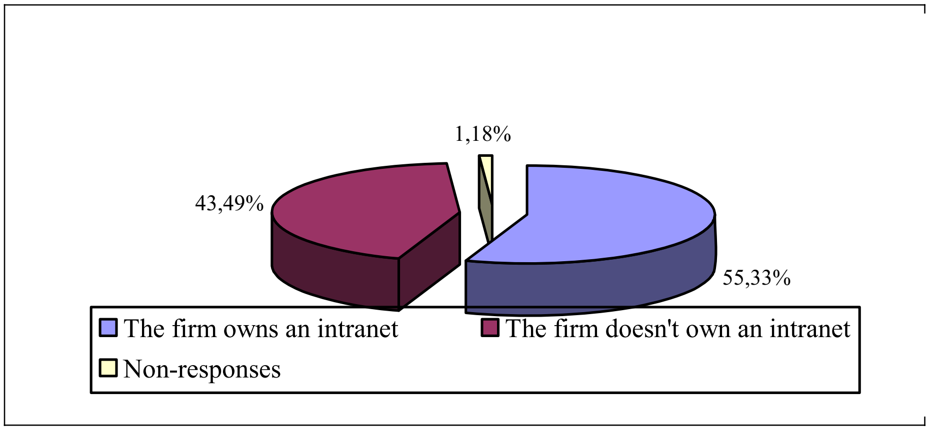


**Figure No. 8 THE DISTRIBUTION OF THE STUDIED ENTERPRISES, AFTER THE LEVEL OF THE INTERNAL INFORMATION SYSTEM**

The study reveals the existence of a relatively high percentage (Table 8) of the enterprises that use a traditional correspondence, which slows down and makes the rhythm of solving business problems, more difficult.

**Table 8 THE DISTRIBUTION OF THE STUDIED ENTERPRISES AFTER THE WAY THAT INTERNAL AND EXTERNAL CORRESPONDENCE IS PERFORMED**

| The percentage of correspondence | 0-25% | 26-50% | 51-75% | 76-100% | Non-responses | Total (%) |
|---|---|---|---|---|---|---|
| - traditionally | 13.31 | 19.82 | 15.38 | 45.87 | 5.62 | 100 |
| - by email | 41.42 | 23.67 | 11.24 | 14.50 | 9.17 | 100 |

## 3. CONCLUSIONS

The changes in the way the Romanian enterprises approach businesses are obvious and undeniable. Concerning inputs procurement, many companies employ a proactive supplying with all its advantages. In principle, the collaboration with the suppliers must be oriented towards determining those to consider themselves an integral part of the buyer's company. The study shows that a great part of the Romanian companies already apply this goal, but that there still are some enterprises where traditional practices survive together with the positive developments that occur. It seems that in the second category of the enterprises, changes take place too slow and not radically enough, either because they did not realized the importance of the new orientations or because that they did not understood its essence. Of course, some of the necessary changes require the advancement of some expenses and these are, in turn, conditioned by the availability of financial funds. There are many enterprises which do not have those funds. Still, many changes, maybe most of them, are conditioned by the change of mentality concerning business and the formation of a new one, specific for the market economy. Maybe this is the necessary change that slows down our transition to a market economy at maximum.
Good relationships with material resources suppliers may attract the latter ones even in planning and organisation of the buyer's production and, on this element, their contribution to the projection of the components of the final products may be obtained. Of course, the continuation on long term of buyer-seller relationships, based on trust and mutual satisfaction, implies a loyalty policy towards the suppliers. Industrial partnership is a business philosophy that contributes to the involvement of clients and suppliers,

regardless of their dimensions, in a long-term relationship, based on clear and reciprocally agreed on goals, in order to obtain a superior competency and competitiveness.
The main idea that is drawn from this study is that in the following period, in Romania, a fundamental policy of change in the business philosophy of enterprises, must be developed, implementing one that would lead to the knowledge, understanding, and implementation on a large scale of the industrial partnership principles.

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# THE ROLE OF CHARLES F. ADAMS, JR. IN DEVELOPING UNIFORM ACCOUNTING STANDARDS

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## ABSTRACT

*This article investigates the role of Charles F. Adams, Jr. in instituting uniform accounting standards. Mr. Adams was the first important regulatory commissioner in US history. Mr. Adams served as the most important member of the Massachusetts Board of Railroad Commissioners during the first full decade of its existence, the 1870's. In this period the Board successfully proposed groundbreaking state legislation providing that all railroads should supply to the Board annual financial reporting information whose content would be specified by the Board.*

*The trail of events shows that Adams' role in instituting uniform accounting standards was an important one. Uniform national railroad accounting standards were weakly included in the Interstate Commerce Commission Act (ICC), which Mr. Adams supported, in 1887. These were reinforced and strengthened in 1907. Weak uniform accounting standards for all publicly held firms in the New York Stock Exchange were instituted in 1907. Strong standards for all publicly held industries and firms were finally legislated by the Securities Exchange Commission Act in 1934.*


**Keywords:** Regulatory Standards; Accounting Regulations; Accounting Records; Financial Disclosure; Railroad Accounting; Regulatory Commission; Uniform Accounting Standards; GAAP; ICC; Union Pacific.

## 1. INTRODUCTION

The development and introduction of uniform accounting standards is arguably the single most important influence on the health and prosperity of the US economy. The development of these standards had its genesis in the Interstate Commerce Commission (ICC), the first US regulatory commission. The ICC was formed in 1887 to regulate the railway industry. In this article we explore and document the critical contribution of Charles F. Adams to the origins, adoption, and development of generally accepted accounting principles.

Charles F. Adams, Jr. (1835-1915) was the great-grandson of John Adams, the second president of the United States, and grandson of John Quincy Adams, the sixth U.S. president. His three major contributions to the railroad industry were as a member and chairman of the Massachusetts Board of Railway Commissioners from 1869 to 1879, as president of the Union Pacific Railroad from 1884 to 1890, and as an influential advocate for the formation of the first US regulatory commission, the Interstate Commerce Commission (ICC) which was formed in 1887 to regulate the railroad industry (Kolko, 1965; Kirkland, 1965).

In the 1800's uniform accounting standards, if implemented at all, were initially imposed by weak advisory bodies created by the firms in an industry. These boards, often guided by private accounting firms or rules sanctioned by accounting firms through an industry organization, governed the early determining of accounting and public corporate disclosure standards (Phillips & Zecher, 1981). These standards had become necessary because of the advent, with the advance of industrialization, of more sophisticated forms of organizations with absentee owners, who exercised their rights through securities rather than a day-to-day presence (Skousen, 1987). As managers and owners became more distinct entities the need for external reporting of accounting records became more pronounced. Adams' major contribution to uniform accounting standards occurred during his ten years on the Massachusetts Board of Railway Commissioners. While other individuals and organizations were also instrumental in uniform standards introduction, the role of Adams is a unique one (Skousen, 1987).

In the following sections we will consider the economic climate of the 1800's, particularly as it related to the railroad industry; reasons for the need of stakeholders for uniform accounting standards; his role in helping form the Massachusetts Board; his contribution to initiating uniform accounting standards; his advocacy role in creating the Interstate Commerce Commission; and the degree of impact he had on the formation of the Securities and Exchange (SEC) legislation in the 1930's.

## 2. RAILROAD CLIMATE AND CONDITIONS IN THE 1800'S

By the late 19th and early 20th centuries, railroad companies were not only the largest firms in the U.S., but also the most highly capitalized firms the world had yet seen. For example, in the 1860's the US Federal Government employed approximately 50,000 civilians, while railroads employed hundreds of thousands. At that time railroad growth and density was used as a general indicator of industrialization in a state or nation, and railroads' influence on American society during this period could be compared to the influence of the Roman Catholic Church on medieval Europe (Haney, 1924).

In 1914 the total US capital invested in railroads was approximately $19 billion. During this same year the capital stock and surplus of all US national, state, and private banks and loan and trust companies was approximately $4.5 billion (Johnson & Van Metre, 1917), or less than one-quarter that of railroads. The sheer size, complexity, and uniqueness of this new industry led to a number of problems for the industry and society to resolve.

Although railroads were vital to the present and future prosperity of the nation, they were growing chaotically and unregulated. Throughout the 1800s the railroads had three major problems: overly intense competition, rate wars, and stock manipulation (Kolko, 1965). Corruption was rife and no overall guidance or regulations existed for rail network development (Snoddy, 1988). Each of these three problems posed complex issues, and each was slow to be resolved. However, the institution of uniform accounting standards was a step toward the clarification of each since, to some degree, all were made possible and exacerbated by information asymmetries among involved individuals and groups. The introduction of uniform accounting standards was, then, a response to some of the important challenges faced by railroads during this period of growth and consolidation (Snoddy, 1988).

Most railroads in the U.S. in the 1800s, particularly those in the West, were developmental enterprises. Most of their value was based on faith in future geographic expansion. This contrasted with conditions in England, where railroads were exploitative enterprises constructed to utilize existing trade channels and business opportunities. With developmental enterprises such as the US railroad industry, the possibility of long-term returns was great. However, producing them involved vast capital outlays, few immediate business opportunities, and little hope of early profits. As a result, without state or Federal subsidies no rational capitalist could justify these undertakings. Because faith in U.S. expansion was high on the part of its citizenry, governments in the US did extend very large quantities of resources to aid capitalists in building the railroads. In the US, the embedded beliefs in expansion and heavy public investments in railroads, led to a public-private collaboration. This in turn led to government regulation of the railroads and the establishment of uniform accounting systems, among other outcomes (Goodrich, 1960).

## 3. NEED FOR UNIFORM ACCOUNTING STANDARDS

Relationships between early railroad firms were highly adversarial. This made development and implementation of uniform accounting standards, or any standards, more difficult. What was needed in the railroad industry was a way to convince the many skeptics that uniform accounting standards could yield net benefits for all railroad industry stakeholders. Most in the industry anticipated difficulties of standards such as changing recordkeeping, enlarging staff, redundantly checking figures, and pedantically insisting on accuracy. But few were able to see the proposed benefits all parties could derive (Johnson & Van Metre, 1917).

For stockholders and other investors, problems from the lack of standards included misleading or inaccurate accounting figures; information that could not be interpreted or that could be interpreted in several ways; and an inability to compare railroads' performance since each railroad used its own format. Benefits of standards to stockholders and other investors were aiding investors' ability to accurately assess the value of railroads (Johnson & Van Metre, 1917), and objective data verification (Skousen, 1987). Taken together these revolutionized the ability of investors, lenders, governments, and other stakeholders to make intelligent financial decisions.

Ironically, the railroad managers themselves were probably the ones suffer most from the lack of, and to benefit most from the presence of, uniform accounting standards. Some problems railroad managers faced without them were an enhancement of the culture of corruption that existed among railroad officials (Larrabee, 1895), and the inability of railroad officials to make good financial decisions because of poor or inaccurately kept records. Some advantages to managers of having uniform accounting standards were the ability to ascertain the price to operate profitably; the capacity to justify the obtaining of sufficient revenues for maintenance and growth (Snoddy, 1988); institution of meaningful standardization and quality issues regarding accounting procedures; becoming able to analyze operations for profit and cost centers; comparing their performance on key variables with that of other railroads, leading to greater efficiencies; and monitoring and comparing management policy decisions with the results of those policies (Johnson & Van Metre, 1917).

For government and political officials, not having uniform accounting standards meant that they did not understand the nature of the railroads from a financial standpoint; they were unaware of the cost details of running the railroads; that they could not knowledgeably gauge the effect of current regulations, determine whether new ones were needed, or ascertain if current ones were not needed; and that they could not discern between honest and unscrupulous operators. Advantages of having uniform accounting standards for government and political officials were that they enabled better discussion and greater knowledge of how the railroad system's finances affected all other operational components; they could comparatively analyze costs and rates; they would be more able to assess each firm's operation in the public interest; and they could better ensure equity of rates and fees (Johnson & Van Metre, 1917).

Shippers and Passengers problems' with not having uniform accounting standards included unnecessarily high rates and fares because railroads often avoided regulatory limitations on earnings by reinvesting earnings in expansion and improvement, thus placing capital expenses into their operating account. Although these groups may not have recognized this as a problem, it nevertheless affected them. Advantages of uniform accounting standards to them were that customers would be able to assess the fairness of pricing, and that rates that were fair to customers would more often result (Snoddy, 1988).

For citizenry in states, municipalities, and communities in the US during the 1800s, one problem of not having uniform accounting standards included unprofitable or near-bankrupt railroads concealing their situation from the public by placing problematic operational expenses into the capital account. As previously brought out, during the 1800s and early 1900s railroads were in effect quasi-public corporations, largely due to the sizeable government investments that were often required to build them (Johnson & Van Metre, 1917). Particularly during the 1840-1870 period railroads received aid from many states and municipalities, and from 1850-1870 the Federal government gave aid to Western railroads (Johnson & Van Metre, 1917). This made these deceptions even more serious. Thus in time, uniform accounting standards became simply a way of railroads' reporting on their operations to a public which had helped to build them (Johnson & Van Metre, 1917). It was within this set of circumstances that Adams took a position on the Massachusetts Board of Railway Commissioners shortly after the end of the Civil War, in 1869.

## 5. FORMATION OF THE MASSACHUSETTS BOARD OF RAILWAY COMMISSIONERS

Adams wished to engage in a career in which he played the role of a statesman in the evolution of the growing railroad industry. He needed to find a way to study the railroads and become a railroad expert, helping to play a part in regulating the railroads. Adams foresaw the growth of the industrial revolution, banking systems such as JP Morgan's, and other coming changes. This made him think that there was a need for accounting records to be standardized and systematized. Interestingly, it was Adams' deliberate idea to have the state form a board of railway commissioners and then to become a member of that board (Adams, 1916).

In 1869, Charles F. Adams drew up the Act by which the General Court of Massachusetts established the Massachusetts Board of Railway Commissioners, which had three functions. First, the Board was to supervise railroads in Massachusetts. This started out as a somewhat open-ended mission without real authority. The second was to collect pieces of information that would allow the state government to understand the railroads' operation (Kirkland, 1965). The third was for the Board to construct an annual report that explained current conditions in the railroad industry. The Massachusetts Commission was not the earliest state board of railway commissioners, but it was the firs important one and set the pattern for future state railway commissions (Kolko, 1965).

The Massachusetts Board of Railway Commissioners served as a perfect opportunity for Adams to gain, for the first time, a truly first-class understanding of the railroad industry. He volunteered to draw up the annual reports and perform other laborious functions of the Board. The other members were only too happy to grant his request. This gave him the leverage to advance his views and initiatives before the Board while he was only a member, even before he assumed its chairmanship in 1872 (Kirkland, 1965). When it was formed the Massachusetts Board of Railroad Commissioners had the power to subpoena and to provide information to the legislature and the public (Snoddy, 1988). Due to its early success and the need for its work, the commission's powers were gradually extended from a purely advisory role to more authoritative ones such as supervising railroad incorporation, financing, construction, and operations (Haines, 1906). This advisory-supervisory commission form spread to other states in the late 1800s and early 1900s, not only for railroads but also with utilities and some other industries containing a heavy public interest. Soon after this period, however, state boards with the power to issue binding standards on railroads and other industries superseded the advisory-supervisory commission form.

## 6. CHARLES F. ADAMS' CONTRIBUTION TO UNIFORM ACCOUNTING STANDARDS

This seminal idea that is the focus of this paper, that railroads should keep accounting records whose content could be both determined and judged by the Board (i.e., that specified organizations should be mandated to exhibit their books periodically to designated outsiders in a standardized format), turned out to be one of the less controversial and more palatable ideas advanced by Adams. It did take a goodly bit of effort for Adams to convince the General Court of Massachusetts to adopt uniform accounting standards. However, it took far more years of effort on the part of many more stakeholders before other railroad industry problems such as regulation, accidents, rates, competition and pooling became well managed (Johnson & Van Metre, 1917).

Adams noted various abuses in his home state that could be remedied by the advent of uniform accounting standards. As far back as the early railroad charters, a frequently included clause limited earnings to 10 percent per annum on the cost of the road. If the percentage exceeded that figure, rates were to be reduced. Adams was convinced that the more favorably located and better-run roads were in effect avoiding a rate decrease by financing their expansion and improvement through the reinvestment of earnings. In other words they had closed their construction accounts and put permanent improvements into their operating accounts. Hard-pressed roads did the opposite. As long as the methods of keeping railroad accounts were based on each road's financial circumstances, a valid comparative study of costs and rates was out of the question. Consequently Adams began to press the General Court to authorize the commission to draw up a standard system of keeping railroad accounts and impose it upon the railroads (Johnson & Van Metre, 1917).

In 1876, due to Adams' lobbying, the General Court adopted provisions for a uniform accounting system for Massachusetts railways. These were to be accurate and complete, allow comparisons between railroad companies, and help the General Court to judge the fairness with which the railroads were conducting their business. Soon after the Massachusetts Board introduced uniform railway standards, a major development occurred when the American Association of Railway Accounting

## 7. FORMATION OF THE INTERSTATE COMMERCE COMMISSION

Adams was in favor of a US commission, rather than legislation, to regulate railroads (Kolko, 1965). Congressional committees had investigated the issue of railroad regulation for ten years prior to the passage of the Act to Regulate Commerce, known today as The Interstate Commerce Act (Haines, 1906). Adams presented the Rice Bill for Railroad Commissioners to the House in the late 1870s. Adams presented H.R. 133, the Henderson Bill, to the House Committee on Commerce hearings of 1882. Its purposes were to provide for 3 commissioners, appointed by the President, to receive and look into public-service related complaints in the railroad industry, to collect data and information that would allow railroads to be understood on a national basis, and to help lead the way towards national regulatory legislation for the railroads (Kolko, 1965). In doing this Adams followed the path he took to helping establish the Massachusetts Board of Railway Commissioners. The eventual ICC differed somewhat in form from Adams' concept.

Adams was president of the Union Pacific Railroad from 1884-1890, which prevented him from becoming a member of the first ICC board. In fact, he never served on any ICC board. Still, as a leading railroad mind of the time, Adams was often called to provide information to the Senate Committee on Interstate Commerce (Kolko, 1965). Between May and November 1885 he helped leaders in the House, such as John D. Long, to advocate a commission (Kolko, 1965). After its formation when President Grover Cleveland signed the Interstate Commerce Act into law on February 4, 1887 (Peterson, 1988), he provided input to persons involved with the ICC (Snoddy, 1988). In 1888 Adams advocated enforcement of every ICC provision (Kolko, 1965).

## 8. ADAMS AND THE SECURITIES AND EXCHANGE COMMISSION (SEC)

It is unlikely that Charles F. Adams, Jr., who died in 1915, had a direct effect on the creation of the 1933 and 1934 securities acts that created the SEC, with its enforcement of generally accepted accounting principles for all publicly-held firms. However, Adams' role on the Massachusetts Board of Railway Commissioners in providing for statewide adoption of uniform accounting standards and his support for these standards during discussions leading to formation of the ICC helped create the regulatory environment necessary for SEC creation. His initiatives helped lead to the expansion of regulatory commissions and uniform accounting standards from railroads to non-railway quasi-government sectors (Johnson & Van Metre, 1917). Numerous additional developments outside Adams' sphere, such as accounting rules developed by the New York Stock Exchange, also helped provide the framework for later passage of the securities acts.

Additionally, had Adams' idea of uniform accounting principles been generalized earlier there might have been no 1929 stock market crash. This was the event that clearly focused the nation on the critical need for securities regulation. The passage of the securities bills has a history that extends backward well into Adams' lifetime. In 1902 the Congressionally-established Industrial Commission recommended mandatory public disclosure of material information, including annual accounting reports, for all publicly held corporations. However, this was not acted upon. In fact, even in the late 1920's, well after Adams' death, there was still a great amount of variability in accepted accounting procedures and principles. This late failure to follow the lead of the railroads in mandating accounting standards may have helped lead to the 1929 stock market crash and ensuing economic decline. In all, three securities bills were introduced to Congress in the decades before precipitous declines in stock value led to the SEC-enabling legislation finally being passed in the mid-1930's (Skousen, 1987). At this point, the nation had at last caught up with Adams' vision.

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# A CASE STUDY OF PERFORMANCE APPRAISAL AND COMPENSATION SYSTEM OF SALESPEOPLE IN CHINESE MEDIUM SIZED PRIVATE ENTERPRISES

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## ABSTRACT

*In China, private enterprise has jumped from 18% of GDP in the early 1990s to 40% today, and should hit 60% within five years.(InfoWorld, 2004) Given the increasing significance of private enterprises in China national economy, how success companies effectively apply HRM practices to realize their strategic goals are worth study and learn experience from. In this paper, we took WLT Company as a case, studied the Performance Appraisal as well as the Compensation Systems designed for sales staff, and figured out several features of these systems as in the Chinese context. The features of PA and CS to salespeople discussed in this paper are common to many Chinese private enterprises today, particularly the small and medium-sized ones. The experience described here provides both valuable references for such enterprises venturing into HRM innovation and useful implications for foreign enterprises who risk to entry Chinese market.*

***Keywords**: Chinese Private Enterprise, HRM, Performance Appraisal, Compensation System.*

## 1. INTRODUCTION

WLT Company is the leader manufacturer specialized in production of electric components which be used in household appliances. Established in 1986, WLT is nowadays the largest enterprise in its industry, with nearly 2000 employees, outputs more than 2million pieces products each month. Almost its entire products were supplied to overseas market or Joint Ventures in China. However, before the year of 2000, WLT is the No. 2 manufacturer in its industry in Mainland rather than the leader. The owner of WLT set a 5-year-goal of the enterprise in 2000 as achieving the leadership among the industry. To this end, a series of HRM practices are implemented to stimulate salespeople to maximize their performance. These HRM policies were mainly focus on performance appraisal and compensation functions. Given the current success of WLT in obtaining market shares, to detect why these HRM practices helped the enterprise to realize its ambitious goal would provide meaningful insights towards maximize sales force performance in Chinese private enterprises. In this paper, we studied the Performance Appraisal as well as the Compensation Systems implemented in sales departments, figured out several features of these two systems, and discussed how they contributed to achievement of the enterprise objective. The features of PA and CS to salespeople discussed hereafter are common to many Chinese private enterprises today, particularly the small and medium-sized ones. The experience described here provides both valuable references for such enterprises venturing into HRM innovation and useful implications for foreign enterprises who risk to entry Chinese market. In-depth interviews were conducted for this study.

## 2. LITERATURE REVIEWS

A well designed performance appraisal can help align what each individual in the company is doing with the company's overall objectives.1 (2005) Effective management of workforce of an organization leads to positive results and could be a potential source of sustainable competitive advantage. (Chow, 2004) Chinese state-owned enterprises were found to be utilizing modern PA measures as effective tools to enhance their management efficiency and productivity. (Bai & Lynne, 2005)

An organization's compensation and reward system has always been one of the most important determinants of its survival and growth. (Singh & Podolsky, 2005) Non-cash compensation in the form of benefits has evolved rapidly over the past few years to become a growing employment issue for companies in China. This has mainly been driven by ongoing government social security reforms, market competition, and employees' increasing expectations. (Chen & Callipari, 2006)

A number of studies have examined salesperson’s compensation and reward systems. The fundamental rewards for PRC salespeople are more group-oriented, while the key rewards for their Hong Kong counterparts tend to be more individually oriented. (Liu, 1998) Sales personnel in USA tend to attach higher level of significance to extrinsic incentives, such as pay increase, than Asian sales people. (Dubinsky, Kotabe, Lim, & Michaels, 1994) Younger salespeople tend to be more motivated by promotion and individual growth opportunity while older salespeople tend to attach relatively more importance to monetary rewards. (Chonko, Tanner, & Weeks, 1992) Organizational climate, such as degree of job challenge and job diversity, influences salespeople's preference of intrinsic and extrinsic rewards (Tyagi, 1985) Furthermore, whether a compensation system is effective or not depends heavily on the dominant value perception of the salespeople and the congruence between this value perception and the organization’s rewarding characters. (Apasu, 1982)

## 3. PRACTICES IN WLT

Just like most of the Chinese private enterprises, WLT is a highly hierarchy enterprise, authority centralized in owner’s hand. The owner of the enterprise holds supreme rights on decision making as well as policy creating, including policies of performance appraisal and compensation. PA in sales departments is basically group-based, the boss appraise performance of each sales staff in two steps. Compensation to sales staffs mostly embodied in the ‘red envelop’ which the boss present to each sales staff at each year-end. Good performer can gain right of using company car, outstanding ones can even be reward by housing. No numerical or clear-cut stipulation or regulation for both PA and CS in the enterprise, but most employees are satisfied with boss’s appraisals as well as compensations and regard the systems as fair.

### 3.1 Performance Appraisal

There are two sales departments in the enterprise. One is responsible for domestic market and the other is responsible mainly for international market. Performance appraisal of sales people is group-based. The owner appraises sales staff at each end of the year, following two steps. Firstly, he assesses performance of the two departments on general criteria: the increasing rate of customer number in prior year, profitability of all contracts, account receive conditions, account receive periods, retention condition of customer, department operating charges, etc. On basis of such group assessment, the boss then appraises individual salespeople’s performance with his own impression of certain employee and feedback from manager of this subordinate in the past year, in view of working attitude, punctuality, productivity, etc.

The enterprise has a culture, or we can say, the boss prefers a culture that no frictions existing in the company. Therefore, informally, personalities of employees such as trustworthiness, harmoniousness with other employees, are critical criterion embedded the boss’s mind.

### 3.2 Compensation Systems

All of the staffs in sales departments earns fixed salary according to their seniorities, managers earn more than their subordinates do; salesmen with longer working year in the company get more than newer comers. Besides the fixed salary and other security insurance , the year-end ‘Red Envelop’ is important benefit for all salesman, which be presented by the boss to every sales staff respectively. Insides the ‘red envelop’, is the bonus money for reward of his/her work in the previous year. Amount of this bonus money is associated with PA result plus seniority of the employee, normally about 40% of the annual income of this sales staff. For manager, this bonus amount can sometimes reach around 60% in annual income.

The boss often praise good-quality group performance in public, for example, the international division did very well in past two years in cultivating new market, therefore, the boss praise the manager time to time, and urge the domestic division to perform better. Both of the praise and urge are publicly, and towards two managers only, but, neither members in the international division will feel unfair that the boss did not praise them, nor the manager of the domestic division will feel upset, because the boss only blame him. They consider the group as a whole.

Good performers can be rewarded by using of the company car, and even house, for instance, in 2002 the boss presents the manager of international market division with a flat to reward his great achievement in new market. There is no accurate or numerical stipulation for PA or compensation system in the organization. “The boss has a scale in his mind”- the interviewer told us. However, most of the sales staff, at most occasions, regard what the systems as fair and satisfied with the results.

### 3.3 Features of HRM practices in WLT

Given that WLT has turned out to be a winner in marketing in its industry, features of PA and CS systems in this enterprise may expected to provide useful reference as well as valuable implication to other enterprises in China who want to venture in HRM and investors who plan to found . Following section presented several findings of feature.

<u>Group-based</u>

The most significant feature of PA and CS system in WLT is the group-based.

Performance assessments basically judge the performance of group, the implication is that the manager of the department should arrange concrete job specification for his people and monitor their outcomes.

Compensation is also group orientated rather than individual. To give example, since the international division performed better at new customer developing than the domestic division, bonus money for salespeople at same seniority in the two divisions will be different – the one in international division gain more than the one in domestic division.

<u>Seniority-oriental</u>

Fixed salaries of sales staffs in WLT are associated with seniorities of each individual. Moreover, the bonus money is also seniority-orientated. In same department, more senior sales staff gains thicker ‘envelop’ than the junior ones at the year-end.

<u>Harmony concerned</u>

The culture of WLT attaches much importance to harmony, partly because the owner of the enterprise dislikes abrasion among employees. Characteristics such like trustworthiness, harmoniousness with other employees were took into consideration while evaluate performance of individual. As a result, employees in WLT generally avoid conflicts and try to maintain smooth relationship with each other. Managers of sales division also are cautious of adverse feedbacks to the boss concerning particular sales person.

<u>Less formality</u>

As is a private enterprise, authority of WLT centralized in control of the owner.

We observed a quite high degree of informality in PA and CS in this enterprise. Criteria of PA are set completely by the owner, even without documentary file. The boss reward sales people with diverse monetary incentives as well as amount without precise calculation, mainly base on review of the annual sales statements and personal impression. Nevertheless, in reality, employees regard the ‘scale’ which is insides the owner’s mind is principally fair and willing to accept such models.

## 4. DISCUSSION

The purpose of this paper is to study features of PA and CS systems of sales force in a successful Chinese private enterprise in the manufacturing industry, and understand why these features could contributed to win the market, among other factors. Additionally, provides some useful references for followers who intend to innovate in HRM practices or implications for ventures into Chinese market. In subsequent segment, we look at why the PA and CS practice in WLT act positive towards the overall strategic objective of the enterprise.

### 4.1 Congruency of HRM and social context

A lots of studies examined relation as well as importance of congruency of HRM practice with the social context. Confucian values place an important emphasis on seniority. Seniority and group-based compensation systems are used to a large extent in China. (Chow, 2004) In collectivistic cultures, compensation and reward system is strongly emphasis on group-based rewards (Gluskinos, 1988), work outcomes are important, but social and relational criteria are weighted more heavily in evaluating employees (Triandis, 2000).

Interaction of the organizational practices with the large social, legal and political context is very essential to success of companies (DiMaggio and Powell, 1983). Effectiveness of HRM practices must be congruent with the social and organizational context. A comprehensive, systematic evaluation system is difficult to implement in a collective society.7 (Zhu & Dowling, 1997) China is culturally a Confucian cultured nation; people accept high hierarchy, long power distance and prefer group orientated activities (Hofstede, 1983). The group-based, seniority-orientated, harmony emphasized, and less formalized PA as well as CS systems in WLT conformed to Chinese social context in a fairly high degree. As a consequence, these systems can be well understood and accepted by sales people in the enterprise – most people at most occasions regard the system fair and well-operated.

Given a private enterprise in China, capital of WLT is wholly owned by the owner, no partners, no shareholders, and the highly centralized control from owner is well accepted by staffs, no expectation in aspect of decision-making or PA criteria or CS system.

**4.2 Align HRM with Organizational strategy**

HRM policies, practices and processes are affected by and, in fact, developed into part of the organizational strategies. (Schuler & Jackson, 1987) Companies who success in strategic performance management should capture both what they want employee to do (behavior) as well as what they want employees to produce (result). (Beatty, 2002)

Given the product of WLT - component be used in household appliances - is at its mature stage in the life cycle, defending exist market should be the basis of enlarge market. PA should emphasize both retention of existing market and achievement of new market. The criteria of PA which WLT is applying, such as increasing rate of customer number, profitability of all contracts, retention condition of customer, captured largely right direction on 'outcome'. When appraise individual, the boss's impression and feedback from division manager on individual subordinates hold chiefly right direction of 'behavior' criteria.

## 5. CONCLUSION

The results of this study suggest that in Chinese manufacturing private enterprise, a group-based, seniority-orientated PA and compensation system can more likely be understood and accepted by sales people and more likely to have positive motivation effects. Monetary reward, such as year-end 'red envelop' with bonus money in, use of company car, house, are also welcomed by the sales people at present social perceptions.

In this vision, companies who are in risk of expanding their businesses into Chinese market or ventures to innovation in HRM can learn some experience and gain pieces of useful references from the case.

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## ENHANCING BUSINESS TEACHING PRACTICES AND STUDENT LEARNING THROUGH INNOVATIVE TECHNOLOGY

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### ABSTRACT

*The influence of recording/playback technology on the pedagogy and learning of a business course was examined over the course of a semester. Further, individuals' goal orientation and level of motivation to use the technology was assessed. 71 business students were provided the opportunity to use technology in class that as a study tool. Results indicated that individuals' frequency of using the technology and their final grade was associated with both their goal orientation and their level of motivation to use the technology. Directions for future research on the use of technology in business schools are discussed.*

***Keywords:*** *Learning; Technology; Pedagogy; Motivation, Goal Orientation.*

### 1. INTRODUCTION

#### 1.1 The Changing Student

Educators in business schools, as well as other disciplines, are attempting to keep up with the changes that are occurring in students' preference for technology to be integrated in their learning process. The National Center for Education Statistics for the 2000-2001 academic year indicates that 56% of all two and four year degree granting institutions offered distance education courses and an additional 12% planned to start offering distance education courses in the next three years. This drive for increased e-learning enrollment has evolved with the changing student culture of higher educational institutions. According to Jones and Maddon (2002), typical college students have grown up with computers, and the Internet has become an essential ingredient to their everyday lives. In response to the changing student culture, institutions of higher education incorporate new teaching styles and alter their business strategies of delivering courses to meet the demands of the 21st century learner (Beaudoin, 2003).

In one respect, increasing e-learning enrollment encourages educators to design research-based courses that support these technologically savvy students (Walts & Lewis, 2003). The inherently constructivist framework of these newly designed courses promotes student learning through active engagement, resulting in knowledge produced from experience, as opposed to the passive receiving of knowledge typical of the traditionally styled lecture (McGriff, 2001). But with respect to this change, teachers face the problem of finding instructional technologies that support the 21st century learner but do not require a high level of technical proficiency. Research shows that when technology is used properly in the 21st century classroom, it can enhance the learning process, making learning more interactive and enjoyable, and it affords the opportunity of curriculum customization to match learners' developmental needs as well as personal interests (Valdez et al., 2004).

Business professors eager to enforce group collaboration into their pedagogy seek an easy to use technology that promotes a constructivist approach to teaching and learning but, at the same time, customizes the curriculum to match learners' developmental needs and personal interests. This paper presents a solution to this problem in the form of tablet technology and recording/playback software. In particular, this study attempted to answer a basic, yet important question: "Does integrating tablet technology into an instructor's pedagogy make a difference in student learning?"

#### 1.2 Technology and Learning

Many educators debate whether distance-learning classes offer the same quality learning experience as face-to-face traditional learning. External accreditation boards (Higher Learning Commission, 2003) and surveys from university students and faculty validate student learning in a traditional face-to-face environment. A review of studies examining whether distance education is worse, better, or as good as traditional education showed "no significant difference" between the two environments. In fact, Thomas L. Russell, director emeritus of instructional telecommunications at North Carolina State University, had hoped to find scientific backing for his initial hunch that distance education is superior to traditional methods; however, his research concluded that the two learning environments are just about equal (Russell, 1999). Theorists conclude that technology does not influence learning; rather, pedagogical methods engage students, providing a quality education in an online environment.

At a recent conference (NJEDge.Net Symposium, 2004), several instructors provided both positive and negative consequences from the online learning environment. In contrast, students communicated only favorable outcomes and did not relate any disappointments in their learning experience. Though the overwhelmingly positive student response may only reflect non-learning outcomes such as satisfaction with the flexibility that online courses offer (Brooks, 2003), we found this response significant enough to warrant further investigation into the possibility of technology having a meaningful impact on the actual learning process, despite Russell's findings that "no significant difference" exists between face-to-face and online learning environments.

Research describing how technology can enhance the learning process (Clark 2003, Simons 2004, Valdez et al., 2004) has led instructors to enhance their pedagogy by incorporating technology into their teaching strategies that consider students' learning characteristics. For example, Valdez et al. (2004) describe how students can expand their knowledge and form relationships between previously learned content through collaboration with other learners. Both Clark (2003) and Simons (2004) describe how when multimedia is used, student's comprehension of material increased significantly.

Technology can be especially useful in pedagogy when introducing complex subject matter, whereby learners use both visual and auditory mechanisms in order to process new information. Technology can enhance the curriculum and the developmental needs of the learner where real-world tasks can be applied to their knowledge base. "Ultimately technology may transform the educational content and motivate students toward lifelong learning" (Valdez et al., 2004).

While past research indicates that integrating technology into the teaching and learning environment can be beneficial to the learner there is little research regarding the effects on learning outcomes from the use of recording/narrating software in conjunction with tablet technology. Thus, the purpose of this study was to examine whether (a) integrating tablet technology into an instructor's pedagogy makes a difference in student learning, (b) individuals goal orientation influences the frequency with which they use technology, and (c) motivation to use the technology has an impact on the technology's impact on learning in a business course.

## 2. LITERATURE REVIEW

### 2.1 Goal Orientation

Goal orientation theory, which has its origins in educational psychology, has received attention by organizational behavior researchers who examine self-regulatory processes (e.g., Phillips & Gully, 1997; Radosevich, Vaidyanathan, Yeo, & Radosevich, 2004). Goal orientation refers to the goals individuals implicitly pursue while attaining performance outcomes (Dweck & Leggett, 1988). Theorists over the past few decades have proposed a two- (Dweck, 1986; Dweck & Leggett, 1988), three- (e.g., Elliot & Harackiewicz, 1996; Middleton & Midgley, 1997; VandeWalle, 1997), and most recently four-factor model (Elliot & McGregor, 2001) of goal orientation.

In proposing their four-factor model, Elliot and McGregor (2001) posit that competence is at the foundation of achievement goals. The four factors are formed along two primary dimensions: (a) definition of competence (mastery/performance) and (b) valence of competence (approach/avoid). Both dimensions are integral components of individuals' self-regulatory behavior directed toward the attainment of achievement goals. In terms of the definition of competence, mastery goals focus on an absolute, intrapersonal standard whereas performance goals focus on a normative standard. Elliot and McGregor (2001) argue that this distinction (i.e., mastery/performance) has been implicitly theorized in the classic definition of need for achievement, where individuals want to do well relative to others as well as relative to the task requirements (McClelland, Atkinson, Clark, & Lowell, 1953; Murray, 1938). The second dimension, valence of competence, has been prevalent in several motivational theories throughout psychology's history that suggest individuals adopt approach or avoid tendencies across situations, especially those that are related to competence (e.g., Atkinson, 1957; Bandura, 1986; Carver & Scheier, 1981, Higgins, 1996, Murray, 1938). Thus, Elliot and McGregor's (2001) 2 X 2 goal framework yields four goal orientations: mastery-approach, mastery-avoid, performance-approach, and performance-avoid. Although three of these constructs have begun to accumulate empirical evidence over the last few years (e.g., Day et al., 2003; Elliot & McGregor, 2001; Radosevich et al. 2004), research focused on mastery-avoid goals is still in its infancy.

A central principle of achievement goal theory is that each of the different goal orientations influences the motivational patterns of individuals in achievement situations (Butler, 1992; Duda & Nicholls, 1992; Dweck & Leggett, 1988). The first goal orientation, mastery-approach, is characterized with an absolute competence standard with a predilection to approach success. It involves a focus on enhancing one's task competence by developing new skills and is associated with deeper processing of task-related information and persistence. Individuals with mastery-approach goals value the process of learning and are self-referential as they seek to develop task skills and knowledge relative to the task and one's own past performance. Individuals with a mastery-approach orientation tend to adopt adaptive response patterns by persisting, increasing effort, revising task strategies, and reporting that they find a task to be challenging (Dweck & Leggett, 1988). For individuals with mastery-approach goals, learning is viewed as an end in itself, dependent upon effort utilization and cognitive self-regulation. In other words, mastery-approach oriented individuals view exerting effort on challenging tasks as instrumental to the development of personal competence. Given their focus on development of personal mastery, it is hypothesized that individuals with mastery-approach goals should be more motivated to use the technology and actually use it more frequently (Hypothesis 1).

The second goal orientation, mastery-avoid, involves a mastery standard with a tendency to avoid failure or making any mistakes. Thus, absolute competence is necessary for success and any level of incompetence is the focal point of self-regulation. Elliot and McGregor (2001) argue that mastery-avoid goals may seem counterintuitive since mastery goals are thought to only have an approach form of regulation. Examples of an individual high in mastery-avoid goals include a business person who strives not to make an error in a transaction or a student who strives to avoid any type of misunderstanding that would prevent her from learning (Elliot & McGregor, 2001; Flett, Hewitt, Blankstein, & Gray, 1998). Elliot and McGregor (2001) state that this perfectionist style may describe individuals who focus on not losing their skills or not stagnating in their performance. In their original study that examined mastery-avoid goals, Elliot and McGregor (2001) posited that the relationship mastery-avoid has with various motivational variables would be more negative than mastery-approach goals, but more positive than performance-avoid goals. They found that mastery-avoid goals were operating among students and positively predicted disorganized studying, levels of worry, and emotionality. Despite the uncertainty over the combined effects of the optimal and non-optimal components of this construct, it is hypothesized that individuals with high mastery-avoid goals should be more motivated to use the technology and actually use it more frequently (Hypothesis 2).

The third goal orientation, performance-approach, involves a normative success standard with a predilection to approach success. Thus, it has both an appetitive component (i.e., approach success) and an aversive component (i.e., normative performance) (McGregor & Elliot, 2002). It serves to focus the individual's attention on the positive outcome of attaining favorable competency judgments relative to others. Due to the approach component, individuals with high performance-approach goals are expected to motivate themselves in ways similar to individuals with mastery-approach goals, albeit to a lesser extent as performance-approach individuals are inherently interested in attaining positive judgments of ability. A basic difference is that mastery-approach goals are associated with an incremental view of ability (i.e., belief that individual characteristics are malleable) while performance-approach goals are associated with an entity theory of ability (i.e., belief that individual characteristics are fixed). VandeWalle et al. (2001) suggest that since individuals adopting a performance-approach orientation believe that ability is difficult to develop, they will focus more effort on impression management rather than competency development. Another difference involves the theoretical relationships with performance. McGregor and Elliot (2002) suggest that mastery goals should be theoretically unrelated to actual performance given that individuals with mastery goal orientations focus on absolute task-based standards without the normative evaluation. If mastery goals are related to performance, it would be a result of any indirect effects they have through cognitive processes (e.g., self-efficacy). In contrast, performance goals should be directly related to performance due to their focus on normative standards of evaluation. Thus, it is hypothesized that individuals with high performance-approach goals should be more motivated to use the technology, actually use it more frequently, and have higher performance (Hypothesis 3).

The final goal orientation, performance-avoid, involves a normative competence standard with a preference to avoid failure. Individuals engage in tasks with the strategy of avoiding demonstrations of incompetence and negative judgments, relative to others (Elliot, 1997; Elliot & McGregor, 1999; Elliot & Thrash, 2001). Consequently, a performance-avoid goal is considered to be an avoidance form of motivation as it orients one towards the negative outcomes of avoiding negative judgments and demonstrating lack of ability (Elliot, 1997; Elliot et al., 1999). Avoidance forms of regulation are likely to elicit self-protective processes, such as enhanced sensitivity to failure information or anxiety during task engagement (Elliot, 1997; Elliot et al., 1999). It is expected that cognitive processes and resource allocation strategies should be negatively related to performance-avoid goals since these individuals adopt maladaptive strategies stemming from their focus on avoiding negative judgments relative to others. Radosevich et al. (2004) found that performance-avoid goals were negatively related to deep processing cognitive strategies in students. Similarly, Elliot and McGregor (2001) found that performance-avoid goals exhibited positive relationships with surface strategies, disorganization, test anxiety, and worry. Additionally, high performance-avoid goal orientation has negative effects on self-set goals and actual performance (Elliot & McGregor, 2001). Thus, it is hypothesized that individuals with high performance-avoid goals should be less motivated to use the technology, actually use it less frequently, and have lower performance (Hypothesis 4).

### 2.2 Expectancy Theory

Expectancy theory has three central components: (1) expectancy – one's belief that effort leads to performance, (2) instrumentality – one's belief that performance will lead to outcomes, and (3) valence – one's evaluation of the attractiveness of the outcomes. Together, these three factors predict an individual's level of motivation. While there has been wide support for expectancy through the years, there are two major criticisms of expectancy theory that should be noted. First, researchers have debated over whether to use an additive or multiplicative model. The results of a recent meta-analysis by Van Eerde and Thierry (1996) advocated the use of the additive model over any of the multiplicative models. Second, there has been a debate on the use of within-subject versus between-subjects methodologies (e.g., Kanfer, 1990; Van Eerde & Thierry, 1996). Vroom (1964) theorized that expectancy theory would best predict a person's behavior from a choice of a set of possible behaviors (within-subject). However, in the context of an academic class, each student has already decided to take the test, which indicates that passing the class is the primary outcome for which students are motivated. Thus, a between-subjects design is appropriate for the type of research question examined in this study (Sanchez et al., 2000). If motivation to study for a test is multi-dimensional, then each of the three expectancy theory factors should have a positive influence on individuals' motivation to use the technology as a study aid and performance in class (Hypothesis 5).

## 3. METHODS

### 3.1 Participants

Participants for this study consisted of 71 undergraduate business students enrolled in an organizational behavior course at a large northeastern university. The average age of the participants was 22.80 and there were 41 females (57.7%) and 30 males (42.3%). In terms of race, 57.7% were Caucasian, 16.9%

were Hispanic, 9.9% were Asian, 7% were African American, and the remaining 8.5% indicated other combinations of race.

### 3.2 Procedures

At the beginning of the course, students completed a scale assessing their goal orientation. Then during the course of the semester, students were provided the opportunity to use tablet technology and recording/playback software, which enabled them to use both visual and auditory mechanisms to process detailed instruction. First, the professor recorded his lectures and published them to the internet for students to view at their leisure. Second, students worked on group projects and engaged in problem-solving activities. Using tablets and recording/playback software, students were in charge of their learning by recording their notes and demonstrating their results to the class. This process encouraged student collaboration and peer review that reinforced a constructivist approach to learning. In order to continue the discussions outside of the classroom, students uploaded their recordings as a discussion post in the course management system, which enhanced the learning process even after the class session ended. Students would describe their methodology of solving the problem, which was then evaluated by their peers for further processing of information. Collaboration was further enhanced by the ability of students to ask questions directly from the point of the presentation where they required an explanation, with answers simply integrated back into the session for everyone's benefit. The repository of questions and answers provided instructors with the ability to evaluate those questions that appeared frequently and adjust future lessons accordingly. A frequency count was recorded each time a student used the technology of their own volition outside of class. At the end of the semester, students were asked about their motivation to use the technology throughout the semester.

### 3.3 Measures

*Goal orientation.* Goal orientation was assessed with the Achievement Goal Questionnaire (Elliot & McGregor, 2001) that included each of the four goal orientation constructs: (a) mastery approach (e.g., “I want to learn as much as possible from this class”), (b) mastery avoid (e.g., “I worry that I may not learn all that I possibly could in this class”), (c) performance approach (e.g., “It is important for me to do better than the other students”), and (d) performance avoid (“I just want to avoid doing poorly in this class”). Elliot and McGregor (2001) reported adequate internal consistency estimates for each scale. All of the items were made on a seven-point scale.

*Motivation to use the technology.* Valence, instrumentality, and expectancy were all measured with items adapted from the Valence, Instrumentality, Expectancy Motivation Scale (VIEMS), which was written by Sanchez et al. (2000). Three questions assessed valence (e.g., “I would like to do well with this technology.”), four questions assessed instrumentality (“If I do well with this technology, I have a good chance of reaching my class goal.”), and three items assessed expectancy (“If I try to do my best with this technology, I can get a high score in this class.”). All of the items were made on a seven-point scale.

*Frequency of use.* Frequency of use was assessed by counting the number of times each student accessed the recorded lectures/projects online before each test.

*Grade performance.* Performance in class was assessed by using the final average attained in class.

## 4. RESULTS

### 4.1 Descriptive Statistics

Table 1 provides the means, standard deviations, and intercorrelations among the variables in this study. On the whole, students indicated relatively high amounts of the four goal orientations. Further, students reported that they were relatively motivated to use the technology. Specifically, they held high expectancies that they could put forth the effort to use the technology ($M$ = 5.08), relatively high beliefs that the technology would be instrumental in them achieving their goal ($M$ = 4.83), and relatively high valence of the technology (*M* = 4.92). On average, students used the technology 2.69 times for each test. Overall, students earned an average of 81.89 in the class.

**TABLE 1. MEANS, STANDARD DEVIATIONS, AND INTERCORRELATIONS AMONG VARIABLES**

| Variable | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Mastery-Approach | 5.03 | 1.37 | (.81) | | | | | | | | |
| 2. Mastery-Avoid | 4.89 | 1.09 | .16 | (.79) | | | | | | | |
| 3. Performance-Approach | 4.90 | 0.98 | .49** | .16 | (.89) | | | | | | |
| 4. Performance-Avoid | 5.25 | 1.60 | -.56** | .02 | -.42** | (.77) | | | | | |
| 5. Expectancy | 5.08 | 1.53 | .18 | -.11 | .41** | -.33** | (.86) | | | | |
| 6. Instrumentality | 4.83 | 1.41 | .10 | -.07 | .34** | -.20 | .87** | (.83) | | | |
| 7. Valence | 4.92 | 1.60 | .25* | -.12 | .38** | -.33** | .94** | .90** | (.82) | | |
| 8. Frequency of Use | 2.69 | 1.86 | .24* | -.10 | .08 | -.41** | .53** | .49** | .56** | -- | |
| 9. Grade | 81.89 | 5.93 | .13 | .02 | .32** | -.35** | .78** | .71** | .73** | .48** | -- |

*Note. N = 71. Values on the diagonal represent scale reliabilities. * denotes a correlation that is significant at the .05 level. ** denotes a correlation that is significant at the .01 level.*

### 4.2 Quantitative Results

Hypotheses 1, 2, and 3 predicted that individuals with high mastery-approach, mastery-avoid, and performance-approach goals would be more motivated to use the technology and actually use it more frequently. Conversely, Hypothesis 4 predicted that individuals high in performance-avoid goals would be less motivated to use the technology and would actually use it less frequently. Examination of the correlations in Table 1 indicates partial support for the hypothesized relationships between the goal orientation and motivational variables. Specifically, mastery-approach was positively related to valence ($r = .25$, $p < .05$). Similarly, performance-approach was positively related to expectancy ($r = .41$, $p < .01$), instrumentality ($r = .34$, $p < .01$), and valence ($r = .38$, $p < .01$). In contrast, performance-avoid goal orientation was negatively related to expectancy ($r = -.33$, $p < .01$) and valence ($r = -.33$, $p < .01$). Frequency of use was positively related to high mastery-approach goal orientation ($r = .24$, $p < .05$) and negatively related to performance-avoid goal orientation ($r = -.41$, $p < .01$). The final set of goal orientation hypotheses involved the relationship between the two performance orientations and students' grades in class. As hypothesized, grades were positively related to performance-approach ($r = .32$, $p < .01$) and negatively related to performance-avoid ($r = -.35$, $p < .01$). Finally, inspection of Table 1 reveals that there was there was strong support for Hypothesis 5; that is, all three motivational variables (i.e., expectancy, instrumentality, and valence) were positively related to both the frequency with which the business students used the technology and their final grade in class.

### 4.2 Qualitative Results

Because it employs triangulation to sharpen the evaluator's findings by collecting both quantitative and qualitative data at different stages of inquiry (Creswell 2001; Sharp & Frechtling, 1997), we used a mixed methods approach. Specifically, a mixed method approach may reveal discrepancies in the analysis or data collection and help the researcher "put together" or blend the findings from both strategies into a workable solution (Johnson & Onwuegbuzie, 2004).

At the end of the semester, students were afforded the opportunity to provide anonymous feedback regarding the learning process as an attachment to the university-issued teaching evaluations of faculty. Anecdotally, the business professor reported that class participation was more meaningful in the technology classes because his students were able to ask more substantive follow-up questions after listening to the lecture with the playback software. Student survey results described how the use of this technology "eliminated the need of constant writing and note taking in the classroom." Furthermore, students reported that the technology engaged them more in the learning process. Students were able to ask the professor questions via email within the playback lecture and then view the professor's answer to that question at the exact point where the student was confused. The software allowed for every question and answer to be posted within the lecture for the entire class to view. The benefits of this feature included fewer office hours spent going over the same questions, feedback on the areas of the lectures in which students need more attention, and more time allowed in class to cover additional material.

## 5. DISCUSSION

Overall, this study provides an interesting look at the role of individual difference and motivation variables in business students' use of an innovative technology and their learning outcomes. Technology has become a staple of the 21st century learning environment, and as technology changes so should the pedagogy providing the framework to empower students to engage in successful learning. Technology fosters a constructivist-learning environment providing the mechanism for learners to share their experiences, observe different perspectives, and negotiate and generate meanings and solutions through a shared understanding. This was evident in our research whereby using tablet pc's and recording/narration technology enabled the learners to process complex material easier and share their method of problem solving with the other learners.

As described in past research (McLaughlan & Kirkpatrick 2004; Valdez, et al., 2004), it is the pedagogy behind the use of the technology that allows for quality learning to occur. Integrating effective technology into an instructor's pedagogy can enhance the learning environment and promote a dynamic student-centered learning atmosphere where the emphasis is on learning by doing rather than learning by note-taking. Positive outcomes can result as long as the curriculum and the students possess a degree of openness, enabling the learner to build on prior knowledge and experiences (Motschnig-Pitrik & Holzinger, 2002). This study demonstrates positive learning outcomes for today's students when tablet technology and recording/playback software are integrated with constructivist instructional strategies that increase the potential for quality learning. Future research should identify whether there is a difference in learning outcomes between students who identified their learning style and selected the appropriate delivery method compared to students who did not have any option of identifying their learning styles and delivery methods.

Further, the role of individual difference variables in predicting whether students will engage in using technology was demonstrated in this study. Specifically, the students high in mastery-approach engaged in adaptive goal striving behavior by using the technology more frequently. In contrast, individuals high in performance-avoid goal orientations were less likely to use the technology, which is consistent with previous research that has found that these individuals engage in maladaptive motivational patterns during goal pursuits (e.g., Elliot and McGregor, 2001). Further, Vroom's classic expectancy theory was useful in demonstrating meaningful relationships with frequency to use the technology and actual grade in the class.

Although this study offers an understanding of the role that technology can play in the learning process, there are some limitations. First, the small sample size warrants other researchers to replicate these findings in other samples. Further, instructional designers may offer insight into how to specifically utilize the technology to better match students' learning styles. Nonetheless, this study does offer hope that those faculty who use innovative teaching techniques may actually have an impact on their students' learning outcomes.

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## THE VALUE OF PENNY STOCK TIPS

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### ABSTRACT

*Penny stocks are very attractive to investors primarily because of their small investment outlay and the prospect of huge returns. Many stock analyst firms come out with a stream of penny stock recommendations through newsletters that tantalize the investor with fantastic returns. The purpose of this paper is to track the price performance of such recommended stocks, their volumes and free cash flows, and identify the gains to investors, if any*.

***Keywords:*** *Penny stocks, Microcaps, Nanocaps, Stock Recommendations, Stock Analysts, Trading Volume.*

### 1. INTRODUCTION

Penny stocks as defined by the Securities Exchange Commission, Rule 3a51-1, are those stocks that have a market price of less than five dollars. They are also sometimes defined in terms of market capitalization and are called micro-caps or sometimes nano-caps. Micro-caps are those stocks that have a market capitalization between 50 million to 300 million dollars, while nano-caps are those stocks that have a market capitalization of less than 50 million dollars. For the purposes of this paper we will assume that penny stocks are those stocks that have a value of less than $5 for at least six consecutive months.

Penny stocks are a lure for investors primarily because of their low investment outlay and very high returns (Gray 2005). However, they also carry an extremely high risk of substantial loss. Woolley (2005) describes how a website tracked portfolio of 37 penny stocks lost 48% of its value in six months. Penny stocks are usually traded over the counter, markets that have very lenient listing requirements, and these markets are described by Ross, Westerfield and Jordan as the “Wild, Wild West of stock trading”. This sentiment seems to be universal, as penny stocks and penny stock trading have, at some time or another, been under investigation for fraud in the United States of America (Herring 1996, Farrell 2005), Canada (Baines 2002), Germany (Economist 2002), Hong Kong (Bradsher 2002) and India (Punnen 2005).

To protect the U.S. investor the Securities Exchange Commission (SEC) has enacted Rule 15c2-6 which places restrictions on brokers selling penny stocks to uninformed buyers. This rule requires brokers to determine if penny stocks are a suitable investment for the buyer after obtaining their financial information and investment objectives, explaining the risks to the buyer in writing and obtaining their written permission. The permission and the signed statement must be obtained for each of the first three such securities (penny stocks) that are bought by the investor. The rules do not apply to established exchange listed or National Association of Securities Dealer Automated Quotation (NASDAQ) securities. However, there are no specific SEC rules in place for stock analysts who evaluate and recommend penny stocks. The high risk of penny stocks does not seem to deter investors from buying these stocks. It also does not deter many stock analysts from making buy recommendations on penny stocks given that many companies do not disclose their financial statements and trading is often based on rumors (Harris 2000). The authors of this paper could not find a single instance of a ‘sell’ recommendation for a penny stock. Therefore, though there are rules in place to protect investors from brokers, there are no checks on analysts or companies that recommend penny stocks. The purpose of this paper is to evaluate the performance of recommended penny stocks to gauge whether stock tips on such stocks have any value for the investor.

## 2. DATA AND METHODOLOGY

There are many problems with evaluating the performance of recommended penny stocks. Financial statements on many of these stocks are difficult to obtain and data on the stock price is available for short periods of time as these stocks are not frequently traded and they seem to 'disappear' from the markets for extended periods of time. Even when data is available, conventional event studies analysis is not a very practical tool to evaluate the performance of penny stocks primarily because many of these are quoted in pennies and a very small change in the price of a stock leads to very large percentage changes in return. They do not therefore seem to be correlated with market conditions.

The date on which analyst first recommended the firm is the announcement or recommendation date. Our data set initially consisted of 112 firms recommended by 28 different stock analyst firms between May 2004 and November 2005. All of the recommendations were unsolicited and were received either by mail or fax. No stock price data was available for 19 of the 112 firms and there was not sufficient price data before the recommendation date for 25 firms and insufficient price data after the announcement date for 19 firms. The final sample consisted of 49 firms that had price data but only 25 of these firms had financial statement data that could be located.

## 3. RESULTS

The aggregate one-day return for the sample was -0.10% while the S&P500 return was -0.03%. The aggregate 3-day and 7-day post recommendation date returns for our sample of 49 firms were negative 5.83% and negative 5.63%. The S&P500 returns over the same period were +0.19% and +0.53%. In our sample 19 of the stocks exhibit a price spike of over 5% within three days of the recommendation date and then its free fall. In the sample of 49 firms, 15 of the firms had a positive 3-day return while another 15 had a positive 7-day return. Only 2 of the 49 firms had a positive return 180 days after the recommendation date, +32.35% and +163.64%. The aggregate 180 day return for the 49 stocks was a -6.64%, while the S&P500 had a return of +5.26% over the same period. Table 1 summarizes the returns for the sample and the S&P500.

**TABLE 1: RETURN ANALYSIS BEFORE AND AFTER RECOMMENDATION**

| Sample Size | 49 | | | |
|---|---|---|---|---|
| 1-Day Sample Return | -0.10% | | 1-Day S&P500 Return | -0.03% |
| 3-Day Sample Return | -5.83% | | 3-Day S&P500 Return | +0.19% |
| 7-Day Sample Return | -5.63% | | 7-Day S&P500 Return | +0.53% |
| 180-Day Sample Return | -66.64% | | 180-Day S&P500 Return | +5.26% |

An analysis of the volume of trading for recommended stocks is illuminating. For the 60 trading days before the recommendation date the aggregate volume of trading increases but falls in the 60 days after the stock has been recommended. The aggregate of the change in the daily volume of trading 60-days before the recommendation date is +69,818,342 and for 60-days after the recommendation date is -65,711,109. The change in the volume of trading is positive before the recommendation date and negative after the recommendation date for the 30-day, 20-day, 10-day and 3-day period as can be seen from Table 2.

**TABLE 2: AGGREGATE OF CHANGES IN VOLUME OF TRADING**

| PERIOD\VOLUME | PRE RECOMMENDATION | POST RECOMMENDATION |
|---|---|---|
| 60-Trading Days | 69,818,342 | -65,711,109 |
| 30-Trading Days | 76,522,765 | -65,440,319 |
| 20-Trading Days | 58,888,183 | -22,801,783 |
| 10-Trading Days | 58,448,302 | -58,439,874 |
| 3-Trading Days | 39,919,729 | -20,441,391 |

A cash flow analysis of the sample firms should provide a better justification for the recommendation. If penny firms are being recommended then an improvement in cash flows should validate the recommendation. However, only one firm in the sample had a positive and improving free cash flow while one other firm had negative cash flows prior to recommendation that turned positive post recommendation. These were the same two firms that had positive 180 day returns. The remaining firms in the sample not only had negative free cash flows to begin with but these cash flows became worse after the recommendation. Therefore, cash flows do not validate the recommendation of a majority of the firms.

## 4. CONCLUSIONS

There does not seem to be any value to penny stock recommendations. Some stocks spike up just after the recommendation date before going into a free fall, so there does not seem to be a large enough time window for investors to profit from the situation. The volume of trading also increases before the recommendation date and falls afterwards. Thus, there seems to be evidence of market manipulation. Penny stock recommendations seem to be detrimental to investor wealth. However, a cash flow analysis before purchasing any penny stocks might be illuminating and allow the investor to make a more informed decision. However, financial information on many companies is not available and if available, not reliable. Further, the small size of our sample does not allow us to draw any valid conclusions from the cash flows. Overall, the results seem to support the statement by Ross, Westerfield and Jordan that penny stock markets are "rumor mills and gossip factories" and that "manipulation and fraud are commonplace"

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# JET FUEL PRICE RISK: DO NAÏVE HEDGING STRATEGIES WORK?

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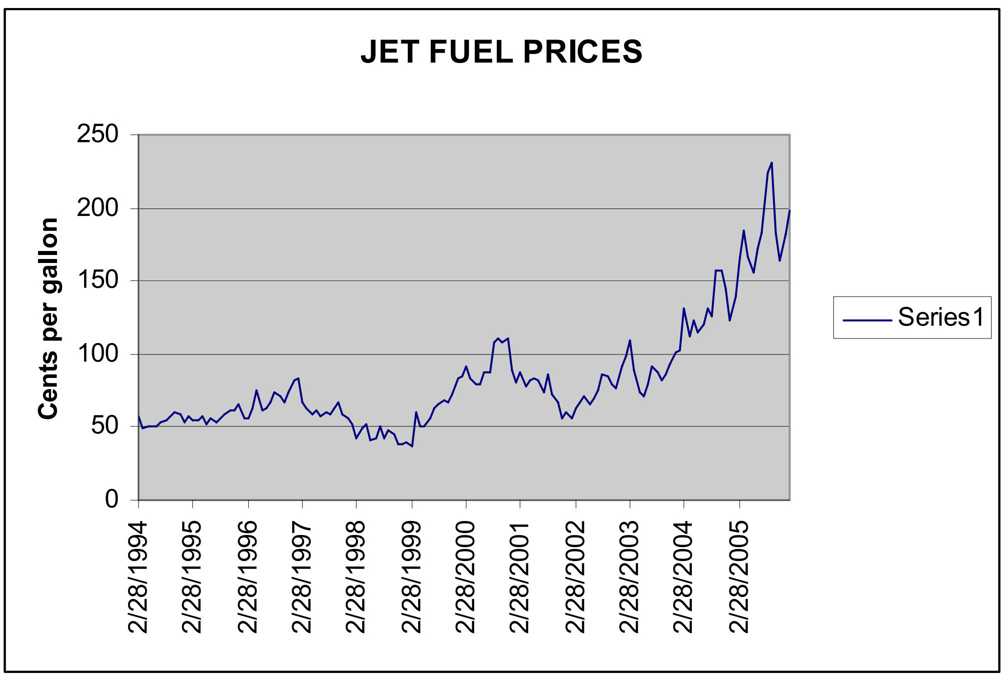
## ABSTRACT

*Jet fuel is a major cost factor for airlines and other air operators. A steep increase in the price of jet fuel has been advanced as the prime reason for the financial difficulty of many airlines. One of the major challenges will be to manage the risk that arises from changes in the price of jet fuel. This paper identifies some naïve hedging strategies that have worked on historical price data. It also identifies the best commodity to cross hedge jet fuel price risk,*

***Keywords:*** *Jet Fuel Price Risk, Hedging Strategy, Cross Hedging Fuel Price Risk, Jet Fuel Costs.*

## 1. INTRODUCTION

Fuel price is a major operating cost for airlines and air operators. Increasing and volatile, fuel prices have been among the major reasons for the dire financial condition of many an airlines that have been forced into filing for chapter 11 bankruptcy and/or are on the verge of liquidation. The price of one gallon of jet fuel increased from $0.59 in 1994 to $1.11 in 2004, to $1.66 in April 2005 and over $2.00 in October 2005, as can be seen from the figure below. The annual daily volatility of fuel prices has increased monotonously from 465.86% in 1994 to 1,922.80% in 2004, and was 2,660.17% in 2005, leaving users vulnerable to a high degree of operating risk. Some airlines have been able to hedge their exposure to fuel prices. Southwest airlines, for example, in 2005 had hedges in place through the year 2009 and therefore it should be no surprise that Southwest has been among the more profitable airlines in the last few years. Hedging away fuel price risk will acquire greater significance for users as fuel prices are forecasted to trend upwards in the coming years. In order to stay competitive airlines and air operators will be compelled to make strategic and tactical decisions regarding the types of aircraft to buy/lease/operate, the routes to service, the passenger load factors and ticket pricing on its routes.



There are many pitfalls to hedging jet fuel price risk. First, the jet fuel user must decide whether to hedge its fuel price risk, if prices go up hedging may be profitable but if prices fall, a hedge may not pay off. Secondly, jet fuel futures or options are not traded on futures exchanges, so a cross hedge using some other futures exchange traded commodity must be chosen, e.g. heating oil, gasoline or crude oil. Conventionally, heating oil is used to hedge jet fuel prices. A forward contract on jet fuel as the underlying asset could also be used to hedge risk but because of the continuous need for a hedge forward agreements may be expensive. The next decision involves the construction of the hedge including a time horizon. This will depend on the users risk averseness and their forecast of short and long term jet fuel prices. An outline for hedging jet fuel price risk using heating oil futures is given by Nikkhah (1987) and Hull (2002). The purpose of this paper is to ascertain the usefulness of naïve hedging strategies using historical prices and short term hedges and to determine the best futures commodity to use in a cross hedge

## 2. DATA AND METHODOLOGY

This paper looks at the feasibility of short term hedging using heating oil, crude oil and gasoline futures contracts. The period under review in this paper is from 1994 to 2004. During this period fuel prices though upward trending, were not as volatile as or steep as in 2005-06. The historical monthly data on spot prices of jet fuel were obtained from the United States Department of Energy website http://tonto.eia.doe.gov/dnav/pet/pet_pri_spt_sl_m.htm while monthly data on historical New York Mercantile Exchange futures prices for gasoline, crude oil and heating oil were obtained from the United States Department of Energy website http://tonto.eia.doe.gov/dnav/pet/pet_pri_fut_sl_d.htm. The contract size for all futures contracts is 42,000 gallons. The correlation coefficient for the period February 1994 and January 2006 between jet fuel prices and prices of crude oil, gasoline and heating oil were 0.984, 0.973 and 0.986 respectively. Therefore, there does not seem to be much of a difference between heating oil, gasoline and crude oil futures for cross hedging purposes.

To calculate the hedge ratio, the correlation coefficients between jet fuel and heating oil, crude oil and gasoline, were first calculated for the period February 1994-November 1995. Subsequently, the first month, February 1994, was dropped and the next month December 1995 added to calculate the correlation for the next period, and so on. The standard deviations were calculated using the 22 end of month prices immediately before the hedging month. The hedge ratio assumed the contract size as 42,000 gallons and was calculated for each hedging month. The floor price when needed was the average five year spot price immediately before the hedging month. The optimal number of contracts to be hedged are then determined for each strategy.

The naïve strategies used for hedging are: (1) Always hedge fuel price risk. This strategy enables the user to hedge regardless of the expectations about fuel prices. One, two, three and four month futures contracts are used to constantly hedge fuel price risk. (2) Hedge when prices are increasing. According to this strategy we hedge if the current price is greater than the previous months price by using a one month contract, if the current price is greater than the two month moving average we hedge using a two month contract. Similarly, we use three and four month contracts if the current price is greater than the three and four month moving averages, respectively. (3) Hedge when prices are decreasing. We assume mean reversion in fuel prices. The strategy is to hedge if the current price is less than the previous month price, or the last two, three or four month moving averages, using one, two three and four month futures contracts respectively. (4) Hedge when prices are decreasing using a floor price. This strategy is similar to previous strategy in (3) and assumes that if prices reach below a certain level, the floor price, it does not pay to hedge as future price increases will still be sufficiently low enough as not to warrant a hedge. Other authors have adopted similar strategies for the cotton and the cattle markets. Bennett (2001) showed that hedging using a moving average strategy resulted in an overall increase in cotton producers' net revenues. Lawrence and Forristall found profitable moving strategies using cattle futures as well.

## 3. RESULTS

Always Hedge. As expected this strategy works as long as prices are increasing. However, when using gasoline as the cross hedge the strategy worked in all years between 1994 and 2005 except in 2001, when the only annual loss using this strategy was a negligible $0.004 per gallon when using the four month gasoline contract. In 2003, 2004 and 2005 the gain per gallon of jet fuel hedged was $0.2012, $0.2259 and $0.2796 per gallon. As can be seen from the figure below that the always hedge strategy gives profitable results when we are using gasoline futures. The crude oil and the heating oil futures hedges give us losses in three of the years between 1996 and 2005 when using the four month contracts.

**CRUDE OIL HEDGE** ($/Gallon)

| | **1 month** | **2 month** | **3 month** | **4 month** |
|---|---|---|---|---|
| **1996** | 0.0049 | 0.0121 | 0.0164 | 0.0199 |
| **1997** | (0.0058) | (0.0099) | (0.0134) | (0.0168) |
| **1998** | (0.0030) | (0.0088) | (0.0110) | (0.0109) |
| **1999** | 0.0129 | 0.0298 | 0.0406 | 0.0492 |
| **2000** | 0.0007 | 0.0057 | 0.0112 | 0.0185 |
| **2001** | (0.0073) | (0.0124) | (0.0130) | (0.0130) |
| **2002** | 0.0101 | 0.0241 | 0.0315 | 0.0334 |
| **2003** | (0.0008) | 0.0051 | 0.0151 | 0.0298 |
| **2004** | 0.0075 | 0.0239 | 0.0442 | 0.0584 |
| **2005** | 0.0160 | 0.0181 | 0.0186 | 0.0312 |

**GASOLINE HEDGE** ($/Gallon)

| | **1 month** | **2 month** | **3 month** | **4 month** |
|---|---|---|---|---|
| **1996** | 0.0664 | 0.0813 | 0.0983 | 0.0819 |
| **1997** | 0.0244 | 0.0162 | 0.0014 | 0.0097 |
| **1998** | 0.0157 | 0.0074 | 0.0354 | 0.0155 |
| **1999** | 0.1277 | 0.1936 | 0.1861 | 0.2206 |
| **2000** | 0.1342 | 0.1713 | 0.2199 | 0.2493 |
| **2001** | 0.0576 | 0.0284 | 0.0076 | (0.0040) |
| **2002** | 0.0243 | 0.0792 | 0.1179 | 0.1265 |
| **2003** | 0.0593 | 0.0932 | 0.1346 | 0.2012 |
| **2004** | 0.1358 | 0.1559 | 0.1983 | 0.2259 |
| **2005** | 0.1782 | 0.2191 | 0.0664 | 0.2796 |

**HEATING OIL HEDGE** ($/gallon)

| | **1 month** | **2 month** | **3 month** | **4 month** |
|---|---|---|---|---|
| **1996** | 0.0039 | 0.0279 | 0.0349 | 0.0414 |
| **1997** | (0.0020) | (0.0211) | (0.0335) | (0.0477) |
| **1998** | 0.0139 | (0.0210) | (0.0397) | (0.0487) |
| **1999** | (0.0481) | 0.0070 | 0.0469 | 0.0784 |
| **2000** | (0.0635) | 0.0334 | 0.0529 | 0.0649 |
| **2001** | 0.0731 | 0.0017 | (0.0198) | (0.0343) |
| **2002** | (0.0468) | (0.0076) | 0.0284 | 0.0861 |
| **2003** | (0.0079) | 0.0212 | 0.0341 | 0.0262 |
| **2004** | (0.0737) | (0.0049) | 0.0344 | 0.0916 |
| **2005** | (0.0667) | (0.0244) | 0.0024 | 0.0391 |

Hedging when prices appear to be increasing. In this strategy the rule is to hedge only if the current price is greater than the previous observed price. This strategy does not give us good results and this is uniform across different cross hedges. Using crude oil futures to cross hedge we obtain losses in 1997, 1998 and 2001, as is the case with gasoline futures. Using heating oil futures the losses extend to2005. The results are given below.

**CRUDE OIL** ($/gallon)

| | 1 mo | 2 mo | 3 mo | 4 mo |
|---|---|---|---|---|
| **1996** | 0.0025 | 0.0252 | 0.0300 | 0.0145 |
| **1997** | (0.0152) | (0.0048) | (0.0084) | (0.0369) |
| **1998** | (0.0054) | (0.0063) | (0.0073) | (0.0355) |
| **1999** | 0.0108 | 0.0508 | 0.0508 | 0.0485 |
| **2000** | (0.0139) | 0.0252 | 0.0368 | 0.0082 |
| **2001** | (0.0140) | (0.0062) | (0.0015) | (0.0594) |
| **2002** | 0.0125 | 0.0457 | 0.0707 | 0.0215 |
| **2003** | 0.0028 | 0.0216 | 0.0397 | 0.0299 |
| **2004** | 0.0158 | 0.0371 | 0.0573 | 0.0535 |
| **2005** | 0.0135 | 0.0628 | 0.0780 | 0.0163 |

**GASOLINE** ($/gallon)

| | 1 month | 2 month | 3 month | 4 month |
|---|---|---|---|---|
| **1996** | 0.0573 | 0.0248 | 0.0582 | 0.0781 |
| **1997** | 0.0467 | 0.0362 | (0.0118) | (0.0956) |
| **1998** | 0.0111 | (0.0367) | (0.0325) | (0.0745) |
| **1999** | 0.2272 | 0.1594 | 0.1948 | 0.2143 |
| **2000** | 0.1671 | 0.1612 | 0.1677 | 0.2150 |
| **2001** | 0.1229 | (0.0527) | (0.0550) | (0.1134) |
| **2002** | 0.0282 | 0.0539 | 0.0626 | 0.0588 |
| **2003** | (0.0329) | 0.1026 | 0.1015 | 0.2282 |
| **2004** | 0.1329 | 0.1405 | 0.1636 | 0.1952 |
| **2005** | 0.1403 | 0.1331 | 0.0514 | 0.2296 |

**HEATING OIL** ($/gallon)

| | 1 month | 2 month | 3 month | 4 month |
|---|---|---|---|---|
| **1996** | 0.0039 | (0.0127) | (0.0040) | 0.0313 |
| **1997** | (0.0031) | (0.0603) | (0.0669) | (0.0939) |
| **1998** | (0.0055) | (0.0368) | (0.0472) | (0.0849) |
| **1999** | (0.0780) | (0.0022) | 0.0353 | 0.0727 |
| **2000** | (0.1614) | 0.0226 | 0.0510 | 0.0645 |
| **2001** | 0.0304 | (0.0052) | (0.0488) | (0.1395) |
| **2002** | (0.0741) | (0.0075) | 0.0191 | 0.0592 |
| **2003** | (0.1057) | 0.0154 | 0.0315 | 0.0189 |
| **2004** | (0.1024) | 0.0006 | 0.0560 | 0.0635 |
| **2005** | (0.2225) | (0.0152) | (0.0062) | (0.0253) |

Hedging when prices appear to be decreasing. This strategy assumes that jet fuel prices revert to a long term mean. This strategy is the opposite of the previous strategy that is we hedge when the current price is less than the previous price, in the hope that prices will increase back to the long run average. This strategy provides the best results among the strategies that we have surveyed. Using 2, 3 and 4 month gasoline futures there is a gain per dollar of jet fuel in every single year of the sample period. The greater the volatility and the price of jet fuel the greater the gain. Even in years of price decreases, for example 2001, this strategy results in a small gain of $0.0179 per gallon of gas. Crude oil and heating oil futures result in losses in 1997, 1998 and 2001, precisely those years in which fuel prices across the board were decreasing. The usefulness of gasoline in hedging is that the demand for gasoline is more stable and less seasonal than the demand for heating oil, and also the demand for gasoline is less affected by world events than the demand for crude oil futures.

**CRUDE OIL** ($/Gallon)

| | **1 month** | **2 month** | **3 month** | **4 month** |
|---|---|---|---|---|
| **1996** | 0.0082 | 0.0027 | 0.0300 | 0.0274 |
| **1997** | 0.0009 | (0.0203) | (0.0084) | (0.0101) |
| **1998** | (0.0013) | (0.0160) | (0.0073) | (0.0027) |
| **1999** | 0.0205 | 0.0256 | 0.0508 | 0.0530 |
| **2000** | 0.0232 | (0.0040) | 0.0368 | 0.0495 |
| **2001** | (0.0026) | (0.0248) | (0.0015) | (0.0037) |
| **2002** | 0.0067 | 0.0134 | 0.0707 | 0.0690 |
| **2003** | (0.0059) | (0.0068) | 0.0397 | 0.0297 |
| **2004** | (0.0009) | 0.0195 | 0.0573 | 0.0830 |
| **2005** | 0.0208 | (0.0075) | 0.0780 | 0.0835 |

**GASOLINE** ($/Gallon)

| | **1 month** | **2 month** | **3 month** | **4 month** |
|---|---|---|---|---|
| **1996** | 0.0573 | 0.1603 | 0.1543 | 0.0871 |
| **1997** | 0.0467 | 0.0062 | 0.0080 | 0.0449 |
| **1998** | 0.0111 | 0.0220 | 0.0581 | 0.0455 |
| **1999** | 0.2272 | 0.3646 | 0.1425 | 0.2522 |
| **2000** | 0.1671 | 0.1916 | 0.3242 | 0.3521 |
| **2001** | 0.1229 | 0.0690 | 0.0390 | 0.0179 |
| **2002** | 0.0282 | 0.1299 | 0.2285 | 0.3297 |
| **2003** | (0.0329) | 0.0802 | 0.1810 | 0.1472 |
| **2004** | 0.1329 | 0.2023 | 0.3025 | 0.3795 |
| **2005** | 0.1403 | 0.3695 | 0.0926 | 0.4548 |

**HEATING OIL** ($/Gallon)

| | **1 month** | **2 month** | **3 month** | **4 month** |
|---|---|---|---|---|
| **1996** | 0.0038 | 0.0847 | (0.0040) | 0.0555 |
| **1997** | (0.0016) | (0.0015) | (0.0669) | (0.0323) |
| **1998** | 0.0277 | (0.0157) | (0.0472) | (0.0367) |
| **1999** | 0.0115 | 0.0533 | 0.0353 | 0.1065 |
| **2000** | 0.0344 | 0.0548 | 0.0510 | 0.0660 |
| **2001** | 0.1036 | 0.0051 | (0.0488) | (0.0133) |
| **2002** | (0.0085) | (0.0078) | 0.0191 | 0.1668 |
| **2003** | 0.1289 | 0.0293 | 0.0315 | 0.0409 |
| **2004** | (0.0450) | (0.0214) | 0.0560 | 0.2321 |
| **2005** | 0.2449 | (0.0407) | (0.0062) | 0.2645 |

<u>Hedging when prices appear to be decreasing and incorporating a floor price</u>. The addition of a floor price to determine a price below which no hedging takes place does not add any value. The main reason being that determining the floor level would require a very strong capability in fuel price forecasting and cannot be included in a naïve strategy framework.

**CRUDE OIL** ($/Gallon)

| | **1 month** | **2 month** | **3 month** | **4 month** |
|---|---|---|---|---|
| **1996** | 0.0082 | 0.0027 | 0.0300 | 0.0274 |
| **1997** | 0.0009 | (0.0203) | (0.0084) | (0.0101) |
| **1998** | - | - | - | - |
| **1999** | 0.0312 | 0.0261 | - | - |
| **2000** | 0.0232 | (0.0040) | 0.0368 | 0.0495 |
| **2001** | (0.0039) | (0.0248) | (0.0136) | (0.0200) |
| **2002** | 0.0026 | 0.0134 | 0.0701 | 0.0778 |
| **2003** | (0.0059) | (0.0068) | 0.0397 | 0.0297 |
| **2004** | (0.0009) | 0.0195 | 0.0573 | 0.0830 |
| **2005** | 0.0208 | (0.0075) | 0.0815 | 0.0835 |

**GASOLINE** ($/Gallon)

| | **1 month** | **2 month** | **3 month** | **4 month** |
|---|---|---|---|---|
| **1996** | 0.0573 | 0.1603 | 0.1543 | 0.0871 |
| **1997** | 0.0467 | 0.0062 | 0.0080 | 0.0449 |
| **1998** | - | - | - | - |
| **1999** | 0.0657 | - | - | - |
| **2000** | 0.1671 | 0.1916 | 0.3242 | 0.3521 |
| **2001** | 0.1304 | 0.0736 | 0.0222 | (0.0127) |
| **2002** | 0.0226 | 0.1297 | 0.2576 | 0.4247 |
| **2003** | (0.0329) | 0.0802 | 0.1810 | 0.1472 |
| **2004** | 0.1329 | 0.2023 | 0.3025 | 0.3795 |
| **2005** | 0.1403 | 0.4477 | 0.8226 | 0.4548 |

**HEATING OIL** ($/Gallon)

| | **1 month** | **2 month** | **3 month** | **4 month** |
|---|---|---|---|---|
| **1996** | 0.0038 | 0.0847 | 0.0893 | 0.0555 |
| **1997** | (0.0016) | (0.0015) | (0.0168) | (0.0323) |
| **1998** | - | - | - | - |
| **1999** | 0.0020 | - | - | - |
| **2000** | 0.0344 | 0.0548 | 0.0566 | 0.0660 |
| **2001** | 0.0993 | 0.0103 | (0.0010) | (0.0153) |
| **2002** | (0.0126) | (0.0067) | 0.0510 | 0.1828 |
| **2003** | 0.1289 | 0.0293 | 0.0377 | 0.0409 |
| **2004** | (0.0450) | (0.0214) | (0.0305) | 0.2321 |
| **2005** | 0.2449 | (0.0071) | 0.1635 | 0.2645 |

## 4. CONCLUSIONS

This paper leads to three important conclusions. The first is that contrary to conventional use, gasoline futures provide a better jet fuel cross hedge than heating oil futures or crude oil futures. The reason could be that heating oil futures are influenced by short term season demand for heating oil while the demand for gasoline is more stable throughout the year. Crude oil futures may be greatly influenced by world events and this leads to more fluctuations in the price of crude oil. The second conclusion of this paper is that a longer hedge is more effective than a shorter hedge. This is because prices have risen over the entire sample period even thought there may be short term declines. The third conclusion is that naïve hedging strategies do work in some cases, for example using long term gasoline futures to hedge jet fuel price risk, and may not work as well with short term hedges and using crude oil or heating oil futures.

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# LEADERSHIP IN UNIVERSITIES IN THE 21st CENTURY

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## ABSTRACT

In this paper three leadership theories developed during the 20th century are examined in terms of thinking about universities as multi-minded social systems on one hand, and from a systems perspective on the other hand in order to understand 21st century leadership in these institutions. After stating challenges that universities are facing in the 21st century and developing a systemic approach based on the double paradigm shift proposed by other authors, roles of leadership in these institutions are explained and findings of the three mentioned leadership theories are integrated. One of several conclusions finds that leadership can be viewed as an emergent property of multiminded systems that can neither be defined nor analyzed but can be managed. Recommendations for allowing and promoting the required changes of universities so as to face 21st century challenges are proposed.

**Keywords:** *Leadership, Universities, Systems Approach, Systems Thinking, Chaos*

## 1. INTRODUCTION

The important economic and organizational changes that started to happen during the 1980s and 90s have dramatically modified how organizations compete and survive. A new competitive landscape, in which complexity and chaos are the only known rules, has appeared. In this context, old ways used for achieving competitive advantage are no longer valid. New ways of thinking are necessary for facing complexity and chaos.

In looking for elements that allow organizations to understand how to manage the complexity that the 21st century shows, scholars and practitioners have increasingly focused on leadership. Nevertheless, most of the leadership models have been developed during in a different time frame time, and different contexts. Some of these models have been developed in terms of pre-established solutions, as universal panaceas which are context-free. This approach "keeps on regenerating the past, reproducing the same non solution all over again" (Gharajedaghi, 1999, p.284). Therefore, it should not be surprisingly that in a different context such as the 21st, these models are not suitable for facing complexity and chaos. A radically different approach is needed for managing complexity and chaos, without neglecting valuable contributions of past leadership models.

Universities are organizations that cannot escape from the 21st century reality. Complexity, new learning, radical market changes, globalization, uncertainty, richer information flows, shorter cycle times, and ambiguity are all challenges that universities have to face (Chieh & Phan, 2005). Moreover, universities have always seen themselves as an organization set apart from the society. However, "the continual globalization of education, coupled with easy access to information technology has resulted in an unprecedented increase of consumer choice..." (p. 69), changing the rules of the competitive game universities had been used to playing by. Thus, universities are facing, perhaps in the most acute and painful way, the challenges that the 21st century presents.

Universities have been recognized as organized anarchies, in which the study of leadership, both as a process and a strategic source of competitive advantage, is intriguing (Cohen & March, 1986, as cited by Denis, 2005, p. 203). Consequently, a crucial issue for universities consists of how to understand and manage their contextual environment in order to survive and develop a competitive advantage. Another crucial issue for these institutions is to understand how leadership plays an essential role in these organizations. It has been recognized that leadership is a key concept that, without question, influences the effectiveness and efficiency of universities (Coltrin & Glueck, 1977, pp. 102-103). Yet it is not clear how leadership fits into universities and which role leadership will play in universities during the 21st century.

## 2. PURPOSE

The purpose of this paper is to examine leadership models developed in the 20th century in terms of the present and the emergent future in the 21st century, and by using a systemic approach, synthesize these theories in a useful, strategic and flexible approach that can be applied in universities for facing the challenges that the 21st century presents.
The inheritance of the past

As has been pointed out, universities show structural characteristics related to ambiguity and organizational anarchies. Generally in these organizations, goals and technologies are unclear, there are no clear criteria for measuring the effectiveness and efficiency of universities, and their outcomes are not completely understood (Denis, 2005, p. 203). Under these conditions of uncertainty and ambiguity, the notion of radical change seems to be out of context. This is why universities have been seen as organizations that are extremely resistant to change. Nevertheless, change is now an imperative if these organizations want to survive.

Cultural legacies have also played an important role in terms of the high resistance to change that universities have shown (Bess & Goldman, 2001, p. 419). The ability of universities for becoming learning organizations is, ironically, under the learning abilities of other organizations (Chieh & Phan, 2005, p. 69). Counterintuitively universities, which are organizations that supposedly are source of innovation, jealously keep old paradigms. Universities' actors still think in terms of organizational models developed not only during the 20th century, but even during the 19th century (Yielder & Codling, 2004, p. 316).
Combining the two depicted legacies with the idea that most universities show a loosely coupled organizational structure, a diffuse leadership, formidable barriers for changing, learning and adaptation to the 21st have kept most universities in the 20th century, it could be concluded that doors are opened for new organizations that irremediably will fill the gaps that universities are letting in the society from which they are part.

The loosely coupled organization form that universities show is not the only possible explanation for the inability of these organizations to face the 21st century. The problem is much more complex. As Chieh and Phan (2005) noted,

> While a university is an institution of higher learning, it does not automatically follow that it is a learning organization especially if it still adopts a centralized, command-and-control structure. Even when a university adopts a decentralized, empowered management structure in order to facilitate innovation, it may still fall short of necessary condition of collective and continual learning from day-to-day experience unless this has been deliberately instituted (p. 69).

Cultural legacies, old paradigms, the lack of purpose, organizational ambiguity and the inability to understand the role of leadership in universities, are some of the elements that create a ballast that is holding most of the universities back to the 20th century and preventing these organizations from facing the 21st challenges.

## 3. CHALLENGES THAT UNIVERSITIES HAVE TO FACE IN THE 21ST CENTURY

Universities have to face some challenges in the 21st century. The most important are; a) the globalization of the economy, b) a new competitive landscape, and c) new learning and managing diversity.

### 3.1 Globalization of the economy

Changes that have happened and still are happening since the 1990's have contributed to a transformational change in local and regional economies. Boundaries and barriers between regions and countries have disappeared in economic and informational terms. According to Ireland and Hitt (1999) nowadays, "products are shipped anywhere in the world in a matter of days, communications are instant, and new products introductions and their life cycles have never been shorter..." (p. 44). The appearance of the Internet has radically changed the market boundaries for universities, the roles of students and professors, and the control mechanisms that universities usually used for controlling their personnel. Globalization also pushes organizations and people to work in dynamic, ever changing teams "to competitively exploit the firm's unique resources, capabilities and core competencies" (p. 43). This need for working dynamically implies that there is no organizational structure that can be appropriated. It will depend on the particular context that an organization wants to face.

In the case of universities, globalization represents a major challenge. Most of people who work in universities are not used to working in teams, but rather individually, with the exception of occasional research projects, which are the result of isolated teams rather than a larger organizational effort. Second, communicational technologies, Internet and an educated market allow consumers to access educational levels that were not feasible before the appearance of these technologies. For instance, universities were used to competing in terms of local or regional competitors. Now, a potential student can pursue a Master's degree in Spain, studying from Argentina, depending on what Spanish or Argentine universities have to offer.

Globalization also introduces an apparent paradox, which will be explained in the double paradigm section of this paper. Changes introduced by globalization "may create a need for individual citizens to maintain separate loyalties-one to their own unique traditions and institutions, the other to the characteristics of a rapidly evolving international culture" (Ireland and Hitt, 1999, p. 44). Therefore, on one hand, globalization implies that "problems are increasingly interconnected, and consequently, it is impossible to solve a singular problem in isolation" (Chieh & Phan, 2005, p. 77). On the other hand, globalization implies that in order to compete effectively on a global scale, "organizations have to become increasingly local in orientation" (p. 77).

Summarizing, globalization has changed the way competition is felt, and has changed the power balance among organizations, markets, countries, and the way business and learning can be done. Furthermore, globalization introduces the notion that problems are complexly interconnected, and thereby the era of single solutions is no longer valid, and introduces the apparent paradox that in order to be competitive on a global scale, organizations must be locally oriented. These facts imply a new competitive landscape.

### 3.2 New competitive landscape

As a consequence of globalization, a new competitive landscape has appeared. In this landscape, "events change constantly and unpredictable" (Ireland and Hitt, 1999, p. 44). These changes invariably affect all parts of organizations. Depending on how an organization manages this new competitive landscape, it can be viewed as a source of opportunities or a source of dangerous challenges.

The new competitive landscape of unpredictable events has also created another paradoxical fact in universities. Looking forward, two terms that appear in this paper must be defined, development and growth. Development, "is not a matter of how much has, but of how much one can do with whatever one has" (Ackoff, 1999, p. 273). Conversely, growth "is an increase in size or number" (p. 274). The emphasis of most organizations on growing has caused apparently unsolvable tensions to surface. In universities, for instance, "an increasing tension between managerial and collegial practices on one hand, an individual academic freedom and personal accountability on the other" (Yielder and Codling, 20004, p. 316) have appeared in recent years, reducing development of universities and their actors, although financially speaking most universities are still growing.

In the context of a new competitive landscape, it should be noted that universities have been profoundly affected because universities have witnessed a steady reduction of their information monopoly (Yielder and Codling, 2004, p. 318). Until the last century, creation of knowledge was the privilege of universities and research was an exclusive responsibility of these institutions. Currently, and on the contrary, knowledge has been commoditized and regulated (p. 318). Intellectuals who work in universities have changed as well. The current trend concerning 21$^{st}$ intellectuals "has become the faculty academic, balancing personal research and teaching objectives with those of the institution, and conforming to externally driven expectations about the quality of his or her performance" (p. 318).

The noted tensions and current trends have an important root in the rapid changes that have occurred since the mid 1980's. Nevertheless, change happens, their effects are reflecting in how leadership has been conceived. Two thousand years ago, these changes heralded the rise of religious leadership, represented through figures such as Buddha, Confucius, Jesus Christ and Mohammad. The Changes that occurred during the 17th century until the 19th century created the opportunity for military leadership, exemplified by Napoleon Bonaparte. In the 18th century, because of the French Revolution and the industrial revolution, the vision of dynastic leadership, obtained by inheritance, was replaced by a political leadership, a tendency that lasts until the second third of the 20th century, exemplified in persons such as Lenin, Gandhi, Martin Luther King and other leaders. During the last quarter of the 20th century, nevertheless, the speed at which technological changes were moving, diversity and the appearance of globalization, all came together to have the arrival of new leadership forms, such as environmental leadership, civil society leadership, corporate leadership, educational leadership, and so forth (Rao, 2005, pp. 2-4)

These tensions also have another origin. Organizations have been perceived in until the recent past, as mindless systems, without a purpose of their own (Gharajedaghi, 1999, p. 10), or as uniminded systems, in which organizations have a purpose, but their parts do not (p. 11). These organizational concepts have focused on growth as being the main success measure. However, the new competitive landscape requires that organizations be viewed in a more realistic way, as multiminded systems. The concept of multiminded systems is explained in the double paradigm shift section of this paper. Here, the relevant issue is that development is one of the most important measures of success in multiminded systems, which is a more appropriate approach for dealing with complexity and chaos, proper of the new competitive landscape. Thus, measuring growth, and efforts oriented toward increasing growth such as having access to information, but not creating it, inevitably will fail. This is true because growth is not a source of competitive advantage in the 21st century. Rather, in the 21st century "competitive advantage is increasingly shifting away from having access to information toward generating knowledge and, finally, toward gaining understanding" (p. 8). Gaining understanding leads toward learning organizations, the following challenge that universities have to face in the 21st century.

**3.3 New learning and managing diversity**

As it has been pointed out, globalization and a new competitive landscape imply that organizations have to change their focus from growth to development. According to Ackoff (1999), development is a matter of learning. (p. 274). Ackoff offered another perspective for understanding what development is: "to develop is to increase one's desire and ability to satisfy one's own needs and legitimate desires, and those of others" (pp. 273-274).

In order to generate development, organizations and specifically universities, need to become learning organizations. Organizational learning has been defined as "the development of diverse interpretations of meaning within the community of individuals that share a common code or frame or reference" (Chieh & Phan, 2005, p. 71). It is said that an organization is a learning one "when over time, it responds more quickly to gaps between actual and planned performance, and operating conditions by building up and employing a larger inventory of error detection and correction routines or solutions (Cooper, Folta & Woo, 1995, as cited by Chieh and Phan, p.71). Several examples form other economic sectors have illustrated that one of the keys to creating a learning organization is leadership and when it interacts appropriately with the other parts of the organizational system.

The challenge to becoming a learning organization implies happens not only when traditional errors or pressures happens. Rather, the real challenge of becoming a learning organization appears when an organization "experiences a paradigm shift, a second order of learning..." (Chieh & Phan, 2005, p. 72). For instance, the paradigm that consists in supposing the physical interaction among universities members is required, because of a deep set of established values in the noted university, is not valid when it is confronted with the real world in which physical contact among university members is not necessary thanks to the new communication means, which pushes the organization to ask itself if its initial values and paradigm are valid. Another second order of learning occurs when the value systems of the organization are subject to the way the organization is inquiring (p. 73). For example, American automotive manufactures had to change their traditional learning, which consisted in traditional marketing research methods toward outsourcings, alliances, and integrating suppliers to manufacturing, when they felt the pressure of Japanese competition in the 1980's (p. 73). Moreover, American automotive manufactures learned that "their business were increasingly less about manufacturing and more about marketing and consumer credit" (p. 73).

Nevertheless, second order learning is not enough in the 21st century. Argyris and Schon (1978, as cited by Chieh and Phan, 2005, p. 74), insisted that the only way an organization can create new learning is through a radical learning process, and as such, the organization can anticipate instead or reacting to deep changes of its environment. Moreover, some scholars have insisted that in order to learn, the first step is unlearning, at all organizational levels. This idea implies a radical departure from traditional structural forms, because the process of organizational learning leads toward different organizational structures, changing radically over time. Therefore, the only thing that can be stated for most organizations is that a learning framework is required if an organizational wants to (and in the 21st century there is no choice in this sense) become a learning organization.

### 3.4 Contexts for leadership in the 21st century

The noted forces and changes, namely, globalization, a new competitive landscape, diversity, the fast pace of technological changes, and the appearance of a civil society which demands actions for its own benefit, amongst others, have created a new context in which leadership should be understood and applied.

Taking into account contexts is a crucial issue for understanding leadership. Thinking of context implies that at least three levels of thinking should be done in order to understand what happens in an organization. These levels are the events level, the patterns level and the systems level (Dolny & Mahon, 2000, p. 46). Unfortunately, most of the actions that organizations have taken work only at the events level, which means that these actions attack the symptoms of problems, but not their roots.
The notion of context and its relationships with 21st challenges can be understood by using some frameworks. Two of these frameworks are the mentioned by Harris (1999) and Chieh and Phan (2005). Harris' framework is particularly appealing, because it points to a path. Harris stated that "we must realize that the era of the 21st century is transformative in nature, and is at least a three dimensional phenomenon, that is, purposeful, integrative and differentiating" (p. 96). Harris went beyond pointing out that " we are talking of transformation in terms of a social system that we exist in" (p. 96), without understanding that the new context must be understood from the perspective of a different social systemic context. The framework detailed by Chieh and Phan describes a similar way of thinking. Their framework consists of the following parts: a) personal mastery, b) building a shared vision, c) mental models, d) team learning, and e) systems thinking (pp. 75-77). In these elements rests a new conception of reality, called the double paradigm shift, which is one of the most useful perspectives for explaining and understanding leadership in universities and organizations.

## 4. DOUBLE PARADIGM SHIFT AND ITS MEANING FOR LEADERSHIP

Most of the difficulties that universities and organizations in general are suffering when facing 21st century challenges come from a set of behaviors that the noted organizations show. Counterintuitively, most of these organizations were successful in the 20th century. Another counterintuitive behavior is the fact that "while the organization as a whole is becoming more and more interdependent, the parts increasingly displays choice and behave independently" Gharajedaghi (1999, p.9). Gharajedaghi sustained that these phenomena have happened and still happen because there are underlying forces that convert success to failure. These forces are hierarchically speaking, from a lower lever to a higher level, imitation, inertia, sub-optimization, and change of the game (pp.4-8). The interactions among these forces provoke such a counterintuitive, but common, phenomena by which successful organizations suddenly fail. These forces generate accumulative effects that in the end manifest themselves in a fifth force, a shift of paradigm.

This shift of paradigm force serves as a context for the change of the game force, and the change of the game force serves as the context for the sub optimization force, and so forth. As was pointed out, complex problems cannot be solved without taking into account the context in which these problems happen. Because of Gharajedaghi's five forces model, the shift of paradigm serves as the most general context for the other four. Understanding this force is one of the keys to understanding the noted counterintuitive behaviors. According to Gharajedaghi, a shift or paradigm can happen actively, or it can happen as a reaction to frustration; when conventional wisdom does not work (p. 9). However, in order to face 21st century challenge, a single shift of paradigm is not enough. A double paradigm shift is required.

Gharajedaghi (1999) proposed that for understanding 21st phenomena, a double shift of paradigm is required. The first shift is related to the nature of reality, about how organizations are conceived, and the other is referred to the methods of inquiry. The first shift provides the ability "to see the organization as a multiminded, sociocultural system" (p. 9) while the other shift provides the ability "to deal with an interdependent set of variables" (p. 9).

From the first paradigm shift, organizations are conceived as "a voluntary association of purposeful members who themselves manifest a choice of both ends and means " (Gharajedaghi, p. 12). Here the key concept is purpose. This is a very different conception of organizations in comparison to the conception proposed by biological models. The meaning of the word purpose in this context was clarified by Ackoff (1999, pp. 12-16). Ackoff stated that "an entity is purposeful if it can produce 1) the same outcome in different ways in the same environment and 2) different outcomes in the same or different environment" (p. 16). Therefore, the ability to make a choice is a necessary but not sufficient condition for purposefulness. According to Gharajedaghi,

> purposeful organizations are part of a larger purposeful whole, the society, but at the same time, it has purposeful individuals as its own members. The result is a hierarchy of purposeful systems of three distinct levels [society, organizations and individuals]. These three levels are so interconnected that an optimal solution cannot be found at one level independent of the other two. Aligning the interests of the purposeful parts with each other and that of the whole is the main challenge of the system (p. 12).

Harris (2006, group communication) complemented this Gharajedaghi's idea by stating that the precise task of leadership is to align the interest of the purposeful parts with each other and that of the whole.
The sociocultural view, the first paradigm shift, recurrently depicts organizations as systems. According to Ackoff (1999) "a system is a whole consisting of two or more parts" that fulfills the following conditions:

> a) The whole has one or more defining properties or functions, b) each part in the set can affect the behavior or properties of the whole, c) there is a subset of parts that is sufficient in one or more environments for carrying out the defining function of the whole, d) the way that each essential part of a system affects its behavior or properties depend on the behavior or properties of at least one other essential part of the system, and e) the effect of any subset of essential parts on the system depends on the behavior of a least one other such subset (pp. 5-8).

The notion of systems leads toward the second paradigm shift. Thinking of organizations in terms of systems implies the recognition that organizations can be viewed as a set of interdependent variables which interact. This is a radical change in thinking from the traditional analytical view of the world. By analysis, it is not possible to understand how variables interact. Systems thinking, conversely, "put the system in the context of the larger environment of which it is a part and study the role it plays in the larger whole" (Gharajedaghi, 1999, p. 15 ), allowing thinking in terms of sets of interdependent variables. The second paradigm shift consists of thinking of organizations as systems.

It is important to note that Gharajedaghi (1999) understood system thinking as a third generation systemic approach, different from operations research (the first generation, mechanical context) and from open systems (the second generation, living systems context). The third generation of systems thinking, which is relevant for the purpose of this paper, is related to interdependency, self-organization and choice in the context of a sociocultural system (pp. 15-16).
The double paradigm shift leads toward important implications and meanings for understanding organizations within a complex, chaotic societal context on one hand, and for understanding individual behaviors on the other hand. These implications are explained in detail as follows.
First, "in the biological model, growth is the measure of success, the single most important performance criterion, and profit is the means to achieve it" (Gharajedaghi, 1999, p. 12). However, in the sociocultural model "the purpose of an organization is to serve the purposes of its members and its environment" (Harris, 2006). The meaning of this idea for leaders in the 21st century is that "most thriving organizations are no longer concerned about stakeholders gain and profit, but about survival" (Harris, 2006). In

contrast, in terms of the sociocultural model, the degree in which an organization serves the noted purposes had been accomplished with the main measure of success and this measure of success is development, as was depicted in previous sections.

Second, in terms of the systems thinking model, improving a part of the system separately from the others does not necessarily imply that the performance of the system is improved. In fact Ackoff (1999, p. 9) stated that usually the result is negative. This is why many efforts for improving isolated parts of organizations are destined to failure.

Third, a system interacts with its environment. The environment consists "of those things that can affect the properties and performance of that system, but over which it has no control" (Ackoff, 1999, p. 7). There is a set of environmental variables that a system can influence but cannot control, constituting the transactional environment, and there is a set of environmental variables that the system can neither be influenced nor controlled, constituting the contextual environment (Gharajedaghi, 1999, pp. 30-31). From this perspective, managing a system is managing its transactional environment. That is, managing its transactional environment upward. The crucial point here is that to accomplish this management, as a system, needs leadership. Thus, leadership can be defined as "the ability to influence those [variables and people] whom we do not control", that is , is about influencing what one cannot control, and appreciating what one cannot influence" (p. 32).

Fourth, from the systems thinking perspective, a system has two dimensions of performance, efficiency and effectiveness. Effectiveness is related to the purposes of the parts of the system, in other words, to what the system does. Hence, effectiveness is closely related to doing the right things (Ackoff, 1999, p. 10). Efficiency is related to doing the things right, irrespective of if these things are the right things to do (p. 10). Consequently, it is a task of leadership to influence the organization toward the direction of doing the right things, instead of focusing on doing things right. This is management, it is not leadership. This idea also implies for 21$^{st}$ leaders, that a strong ethic and value-based sense is required for exerting leadership.

Fifth, systems display a set of properties called emergent properties (Gharajedaghi, 1999, pp. 45-48). Emergent properties cannot be analyzed, and emerge from interactions among the parts of the system. These properties, such as success in business organizations, are not permanent properties and they have to be reproduced continuously (p. 46). As these emergent properties have to be reproduced continuously, they are dependent on the processes that generate them. It is proposed by this author that leadership is one of these emergent properties. In other words, leadership is not in a specific part of the organization. Leadership emerges as the result of the interaction of the parts of the organization. This concept is a radically departure from traditional leadership theories. In terms of emergent properties, it is a waste of time to try to understand leadership by studying leaders, without their followers. Interactions between leaders and followers make leadership possible. Consequently, intents that tend to measure leadership directly will be unsuccessful. What could be measured with respect to leadership, are its manifestations.

Summarizing, the meaning of this point for 21$^{st}$ century leaders, is that leadership is a dynamic property, continuously changing and it is dependent on the parts that conform an organization. It is a leadership role to develop abilities of the organization and its parts harmoniously, depending of the purposes of the parts of the system and its context. Consequently, "leaders need to understand the patterns of complexity and learn how to manipulate the situations of complexity more than the results in order to orient emergent properties and forces to the desired results" (Marion & Uhl-Bien, 2001, p. 403).

Finally, an important implication of the double paradigm shift is related to what competitive advantage means. Most of the competitive approaches (see Gharajedaghi, 1999, p. 17), the interchangeability of parts from labor up to participative management only offers partial responses to 21$^{st}$ challenges, because these competitive games are based on a single paradigm shift. Under the double paradigm shift, competition nowadays is based on the ability of organizations for recreating their future by redesigning themselves (Ackoff, 1974, as cited by Gharajedaghi, p. 22). Instead of predicting the future, the key is to choose what kind of future the organization wants. The process of shaping one's own future implies that "designers learn how to use what they already now, learn how to realize what they do not know, and learn how to learn what they need to do (p. 23). Thus, it is a task of leadership in the 21st century to offer to the participants of the organization a vision as well as a development path in order to serve its members and to serve its environment.

## 5. DESCRIPTION AND ANALYSIS OF THREE LEADERSHIP THEORIES

Having established an appropriate framework for understanding 21st century challenges, three leadership theories are analyzed with the purpose of relating these theories to the double paradigm shift and implications for leadership in universities in the 21st century. The selected theories are Blake and Mouton's managerial leadership grid theory (MG), Fiedler's contingency theory, and the transformational leadership theory. These theories were selected because of their current relevancy in the leadership field, and on the basis that these theories try to explain leadership from a complexity-based perspective.

### 5.1 Blake and Mouton's managerial leadership grid theory

This theory is one of the best known leadership theories. Developed during the 1960's and successively refined, the MG main proposition is that leadership can be explained as the result of the interaction between two factors, concern for production and concern for people (Northouse, 2004, p. 69). The results of the interactions between these two factors have been graphically represented on a grid, in which the two noted factors have been measured using a scale from one to nine. Some combinations of the different degrees for each factor produce five leadership styles. Noted by a parenthesis are the possible combinations between these two factors; putting the degree of concern for people in first place into the parenthesis, the following leadership styles emerge: the country club management (1, 9), impoverished management (1,1), middle of the road management (5,5), team management (9,9), paternalism/maternalism( 9,9) and authority-compliance management (9,1). A leadership style derived from the others is the opportunistic style by which a leader uses any of the noted styles for his or her personal progression (p. 72). Each of these leadership styles are described in detail by Northouse (pp. 69-73).

The MG theory was an important improvement with respect to prior leadership theories in terms of the understanding of leadership. The MG theory has some advantages that have made it appealing. First, the theory explains in terms of leadership, what leaders really do. Second, the theory contains some important empirical support (see Northouse, 2004, p. 74). Third, the theory implicitly recognizes that leadership should be explained in terms of systems, because this is a multidimensional based theory. Fourth, the theory explicitly states that the interactions between the two mentioned factors can be of a complementary nature, which is a systems thinking concept. Finally, the model is heuristic, which means, "it provides us a broad conceptual map that is worthwhile to use in our attempts to understand the complexities of leadership" (p. 75).

The MG theory also shows that the combination of variables leads to results of a totally different nature. Gharajedaghi (1999) established that "although the (1,9) and (9,9) styles both reflect a high concern for the people, the manifestations of these concerns are different in both cases" (p. 41). The (1, 9) style represents a paternalistic leader, who pay attention to the weaknesses of his or her people. Conversely, the (9, 9) style represents a motivator leadership style based on people's stem (p. 42).

The MG theory also has some weaknesses, which are quite natural limitations when viewed from the double paradigm shift perspective. First, the MG model leads almost in all situations to the conclusion that the best leadership style is team management (Northouse, 2004, p. 75). This is an erroneous conclusion, derived from the fact that the model only considers two factors, while reality is built on a large number of interdependent variables. For example, in loosely coupled organizations such as universities, the team management style is sometimes the worst leadership style (Bess & Goldman, p. 427), because there are not enough strong ties that allow for the creation of teams. Second the model is in fact, a linear leadership model, remnants of the analytical approach. Nevertheless, most empirical evidence shows that organizations have a non-linear behavior (Marion & Uhl-Bien, p. 397), and consequently, the literal application of the MG theory can lead to counterintuitive results, such as the noted opportunism.

Another weakness of the MG theory consists in fact that it does not take into account, at least explicitly, effectiveness, and the description of the styles are based more on efficiency rather than on effectiveness. This weakness can be explained by the idea that the model does not take into account the role of followers and their interaction with leaders. The MG model neither takes into account the organizational culture, which is "the cement that integrates the parts into a cohesive whole" (Gharajedaghi, 1999, p. 13), and consequently, the theory misses a critical element required for aligning the parts of a multiminded system.

Finally, the MG model does not explain why a person in some situations behaves as a leader, while in others the same person behaves as a follower. This is the main point of the following leadership theory.

**5.2 Fiedler's Contingency theory**
In this theory (FTC), leaders are matched to appropriate situations. The word contingency illustrates that a leader's effectiveness depends on how well the leader's abilities and traits match with his or her situational context (p. 109). The situation or context involves some variables such as leader-member relations, task structure, leader's position of power and leader's personality (Bess & Goldman, 2001, p. 427). According to this theory, different combinations of these variables create varying conditions that require different leader behaviors with the aim of accomplishing organizational purposes.

FCT introduces a higher degree of complexity for explaining leadership than shown in the previous model. There are now three factors, the noted leader-member relations, task structure, and position of power, and an additional variable, the personal traits, such as high or low motivation for task structure . Combinations of these variables define the situational context in which a person with some personal characteristic will fit for maximum effectiveness. This approach predicts that a person under some situations will be highly effective and will not under others, although it does not explain why.

The model derived from the FCT proposed that leader-member relations can be measured as good or poor, task structure in terms of high or low, and position of power in term of strong or weak. Combinations of the noted values produce preferred leadership styles. In terms of least preferred coworker (LPC), these are low LPCs, middle LPCs, and high LPCs. According to Fiedler (1967, as cited by Northouse, 2004, p. 111), each of the noted leadership styles will be effective in certain situations. For instance, individuals who show a low LPC (task motivated) score will be effective in extreme favorable and unfavorable circumstances. Those individuals who show a high LPC (relations oriented) will be effective in temperate situations (p. 111).

The FCT most appealing feature in terms of 21$^{st}$ challenges rests on the idea context. First of all, there is no a unique effective leadership style. It depends on the context and thereby the FCT explicitly recognizes that leaders should be flexible. On the other hand, the FCT does not explain why leadership must be exercised, and its definition of what effectiveness is depends only on the purposes of leaders, without taking into account other parts of the organization.

In universities, the FCT highlights the need for preparation that people will require to vary their positions according to different contexts. The application of the FCT in universities has encountered hard resistance because of the expectative that according to the situation, the position will vary, adds an uncertainty element that people want to avoid (Bess & Goldman, 2001, p. 427). Mignot-Gerard (2003) pointed out that the application of the FCT in European universities raised the problem of governance systems, because power has to be broadly distributed according to the situation. Thus, roles become ambiguous and again people resist change and static positions appear (pp. 138-142). The FCT also explains why excellent researchers become ineffective leaders when they hold power positions (see Yielder & Codling, p. 321).

**5.3 Transformational leadership theory**
Transformational leadership is a relatively recent leadership theory, which proposes that leadership may be understood as a process by which individuals are changed and transformed (Northouse, p. 169). Bass and Steidlmeier (1999, p. 21) supported the idea that transformational leadership is a leadership concept that allows organizations to achieve exceptional results. The reasons offered for to support this

perspective rest on the idea that transformational leaders are able to identify organizational problems plus, due to the values in which authentic transformational leadership is based, connect the solutions for these problems with a clear vision of how the organization should be (p. 22). As a result, these transformational leaders are able to lead an organization forward; leaders and followers are linked through organizational values.

The most important of the transformational elements is charisma (Horner, 1996, 2001, p. 25). This element explains why certain leaders are able to exert such a profound impact on followers. There is no question that charisma can be based on personal traits or on situational factors. However, the idea of charismatic leader implies the ability of certain people to influence other people to do extraordinary things. Another element that has not been taken into account by previous models is individual consideration. This behavioral factor refers to the concept of an individual dyadic relationship between a leader and his or her followers. However, instead of highlighting the importance of the exchange of goods or interests between the leader and the follower, individual consideration emphasizes that the leader should take care to attend to the needs of each follower, recognizing individual differences among followers, and coaching followers to achieve extraordinary goals. There are two other factors concerning transformational leadership, related to the two previously mentioned. These are inspirational motivation, and intellectual motivation. Perhaps inspirational motivation is the clearest example of how people could be motivated: by using symbols that represent their dreams and offering them a way for achieving their dreams through cooperation/collaboration with goals of the organization.

The two key concepts underlying transformational leadership are change, and transforming. Transforming and change are concepts that repeatedly appear in the 21st century context. Nevertheless, transformational leadership perspectives offered by Bass (1985) Schein (1992), and Benis and Nanus (as are cited in Marion & Uhl-Bien, 2001, p. 403) were and still are, limited because "they assume that leaders directly control and determine future events with their actions (2001, p. 403). Ackoff (1998) offered a different perspective of transformational leadership that later Ackoff (1999) put into the context of the redesign process noted in previous sections, and thereby it is worthwhile to focus the attention on this perspective.

According to Ackoff (1997, p. 25), transformational leadership theory puts emphasis on ethics and morale. This is a crucial point, because efficiency is value-free, while effectiveness is value-full, and the values depend on the purposes of the organization. This is why the previous theories seemed incomplete. They did not explain why organizations do what they actually do and why should do what should be done. Effectiveness implies wisdom. Information, knowledge, and understanding combined with ethic and values constitute wisdom. Wisdom is required ideals, and in the context of transformational leadership, creating wisdom is a task of leadership. In order to create wisdom, leaders should be creative and recreative. These concepts are aesthetics ideas. Hence, leadership is necessarily an aesthetic concept (Ackoff, 1998, p. 26). Going beyond of these concepts, creation and recreation require inspiration, and transformational leaders must inspire in order to allow the organization and its parts sharing a common vision and pursuit goals that satisfies these parts. From this perspective, leadership "consists in guiding, encouraging and facilitating the pursuit by others of ends using means, either both of which they have selected and the selection of which they approve" (p. 24). Therefore, even in universities creating and recreating the organization implies setting a set of core values and allowing the organization to be flexible and dynamic, by allowing its parts to interact keeping in sight the context in which the organization are found.

## 6. DOUBLE PARADIGM SHIFT IN RELATION TO THE NOTED LEADERSHIP THEORIES IN UNIVERSITIES

As noted throughout this paper, the managerial grid leadership theory and the Fielder's contingency leadership theory have been significant advances for understanding leadership, but these theories do not take into account the complexities that the 21st century context implies. Transformational leadership, on the other hand, offers a complex and rich perspective, which with some limitations, can be used for understanding 21st century challenges and the behavior of organizations in such a context. Transformational leadership addresses multiple issues that are related to the systems thinking and multiminded organizations, stating that leadership in this context should be oriented toward "facilitating rather than controlling" (Marion & Uhl, 2001, p. 409).

Complexity theory (as presented by Marion & Uhl, 2001, p. 409) points out that emergence and transformation are processes that can be moderated by the coupled degree of interactions patterns. In terms of researching, the point is how transformation emerges in multiminded systems thought internal and external processes, and how leadership moderates these processes. Moreover, the double paradigm shift and transformational leadership point to the idea that organizations should create their own context, a favorable context in which organizational visions and goals can be achieved successfully. Leaders should "drop seeds for innovation, rather than creating innovation itself, by tending networks, inspiring people and themselves, catalyzing events, rather than controlling them (p. 414).

The applications of transformational leadership in universities have presented several problems. First, Bass (as cited by Bess & Goldman, 2001, p. 433) stated that transformational leadership was not present in American universities because they are rule bound. Intents for applying the transformational leadership model in these institutions have caused counterintuitive results, such as increases in employee turnover, confusion, and a high resistance to change (pp. 433-435). Some factors have been offered for exampling these results, such as the loosely coupled, insular organizational structures of these universities, and "idiosyncratic and professional patterns of teaching and research (p. 425). Nevertheless, the author of his paper believes that the explanation rests in the idea that these efforts have not considered the implication of the double paradigm shift. In terms of the double paradigm shift, "a system is transformed when the type of the system it is thought to be is changed (Ackoff, 1999, p. 287). The noted efforts have not been aimed at transforming the current system, and therefore have failed. In universities employees usually perform their jobs better that their bosses, thus traditional notions of leadership must be abandoned. Rather, a multiminded system "in which all stakeholders can participate directly or indirectly in making decisions that affect them [and to the organization], and in which everyone with authority over others individually is subject to their collective authority" (p, 288) is required. In other words, universities should be transformed from an animated system to a social system, which is, according to Ackoff, "the only kind of transformation that is possible" (p. 289).

The double paradigm shift implies that the context of organizations goes beyond those events that affect them directly. Life of systems' stakeholders perhaps provides the most general context for organizations. Life consists not only of working. In social systems, societal factors such as personal interests of stakeholders, playing and fun are also part of the system. Consequently, organizations should be designed for playing, learning, inspiring and for having fun. Thus, the role of leaders from the double paradigm shift perspective can be summarized as follows: "the transformational leader is one who can create an organization that reifies life, who integrates work, play learning, and inspiration" (Ackoff, 1999, p. 291).

## 7. CONCLUSIONS

From the previous thoughts, several conclusions and recommendations can be formulated for using 21st century thinking and its meaning in universities. First, the implications of the double paradigm shift cannot be neglected. In fact, it is not a matter of choice whether universities must or must not transform themselves in terms of systems and multiminded organizations. These changes are already present in the 21st century. Organization cannot escape from their impacts. Second, leadership, as an emergent property of multiminded systems, plays a crucial role for the noted transformation. Nevertheless, leadership in the 21st century is a complex concept, reflecting the complexity of the context, and in the 21st century context leadership, it is radically different from the perspective developed during the last centuries. A new leadership is required that allows coaching, transforming systems, inspires, fosters workplace learning, develops active links with the external environment, creates a climate in which is safe to think, promotes systematic innovation, allows dealing and looks for discontinuous change and pushes universities close to edge is required for building flexible, innovative learning institutions.

Third, given the chaotic and complex context that the 21st century implies as a concept, analytical approaches seem to be useless. A systemic approach is required for dealing with chaos and complexity.

Thus, there is no a magic leadership theory of leadership, and thereby the three examined theories can and should be integrated intelligently by scholars and practitioners, although the transformational leadership theory seems to be the closest to the 21st century organizational requirements. Appropriate actions, depending on the context, can be formulated from transactional leadership behaviors and member-leader exchange concepts, with the probably exception of very restricted leadership theories such as the leader's trait theory. It is also concluded that, depending on the context and the system, leadership can be explained by a set of theories instead of only one approach. Underlying these theories rests the fact that leadership is an emergent property of multiminded systems, and consequently leadership cannot be analyzed, but it can be understood in terms of a given context from a systems thinking approach.

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## A LITTLE BIT OF KNOWLEDGE IS A DANGEROUS THING FOR BUSINESS LAW STUDENTS: CREATING DEEP LEARNING FOR BUSINESS LAW STUDENTS

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### ABSTRACT

*There is a growing recognition that the primary objective of teaching should be to promote 'deep' learning as opposed to 'surface' learning. 'Surface learning' occurs where students will focus on tasks such as memorising and recall rather than other 'deep' levels of thought such as reflection and analysis of the topics taught. For educators teaching business law to non-law students the difficulty in achieving the goal of deep learning is that traditional curriculum design and teaching methods used in business law tend to promote surface learning. The danger of continuing to encourage surface learning is the potential for graduates to have a lower than ideal quality of knowledge. For example, students are often taught sets of rules without encouraging a greater understanding of why the rules exist. This creates a problem since 'rules' may consistently change so any 'knowledge' gained in business law courses has little value on its own as it must be constantly revised to accommodate new rules. Students who are taught why rules exist will have a knowledge that survives amendments and will have an increased ability to make appropriate decisions in situations where the law is unclear. Promoting deep learning for business law students can be achieved by using teaching methods that promote active rather than passive learning. Deep learning may also be increased by rethinking what constitutes knowledge for business law students. This paper looks at the theories involved with these concepts and provides practical methods to increase deep learning in business law students.*

**Keywords**: Deep Learning, Active Learning, Motivation, Traditional Approach to Teaching, Legal Knowledge

### 1. INTRODUCTION

When business students graduate there are a number of expectations as to what skills and knowledge they will bring to the workforce. First there is an expectation that all university graduates will have necessary generic personal workplace skills such as the ability to communicate and work within a team as well as the ability to think critically and logically (Horsburgh, 1999). Second there are expectations as to business specific skills; these will include graduates having knowledge of marketing, finance, management and law just to name a few areas. In depth knowledge of a particular area is not expected unless that student has majored in that subject, so for the most part knowledge of non-major areas is limited to an understanding of the main principles and how these principles are associated with current business practice. For example, a study conducted Tanner, J., Keaty, A., & Major, C. (2004) demonstrated that law has an increasing importance for all aspects of business and the need for graduates to have some understanding of certain key areas is highly desirable. While most subjects in a business studies curriculum provide this approach of combining basic principles with business practice there is one subject area that appears to be out of step – business law.

Business law courses still tend to adopt traditional views of knowledge and teaching that are more appropriate for law students rather than business students. The result is that students often have little understanding of how the law operates in business. This lack of relevancy to the main study focus of the students can also lead students to perceive the law as being a difficult subject that is 'suffered' rather than learnt (Frantz & Wilson, 2004). Student perceptions combined with the traditional approaches used by legal educators leads many students to adopt a surface learning approach rather than a deep learning approach to law. Adopting surface learning means that while graduates are able to live up to knowledge expectations for other business areas they will often demonstrate a lowered understanding and recall of business law. Essentially they will have learnt little about business law.

Learning is the process by which new knowledge is obtained. The durability of the knowledge gained will depend on whether students have engaged in deep learning or surface learning. The concept of deep learning is where students attempt to make sense of what is being learnt by thinking and playing with ideas while integrating the new knowledge with existing knowledge (Gibbs, G. 1992). Because knowledge is embraced within the students overall understanding of 'how things work' it is retained as lasting knowledge. Compared to this surface learning often leads to rapid forgetting of what was learnt. This is because in this type of learning the student reduces what is being learnt to unconnected facts which are memorised in order to be recalled for a specific event – such as an exam (Gibbs, G. 1992). For graduates to be able to demonstrate an understanding of business law they must have lasting knowledge of what has been taught. This requires business law educators to foster a deep learning approach. The question is: can the traditional approaches to legal knowledge and teaching provide students with a deep learning approach or is there a need to use alternative approaches for teaching business law?

The purpose of this paper is to discuss the problems associated with traditional approaches and to outline the benefits of using non-traditional methods to achieve deep learning. It is submitted that in order for business law students to achieve deep learning legal educators must impress upon students the relevance and value of the law to business. It is suggested this will best be achieved by adopting active learning and incorporating alternative views of what legal knowledge is, but may also be enhanced by the use of motivation techniques.

## 2. CRITICISM OF THE TRADITIONAL APPROACH

The traditional or transmission model of teaching is based on the view that teaching is about relaying information to students. According to Pratt (1999) with this approach the role of the teacher is to 'accurately present content and help learners accurately reproduce that same content'. Once the teacher has performed their duty of relating all necessary information on a topic their 'job' is done. Learning is considered to occur just so long as the required quantity of information is imparted to the students (Ramsden, 1992). The role of the student is that of a passive observer.

This model of teaching is often criticised as it only produces 'surface learning' (Pratt, 1999) where students focus on tasks such as memorising and recall rather than other levels of thought such as reflection and analysis of the topics taught (Biggs, 2003). With the transmission model of teaching students are generally expected to remember the information provided and repeat it back on request. The problem with this is that 'remembering' does not always mean 'understanding' the information. In order to understand information the learners must be active participants who process new information through the use of existing knowledge and skills. Knowledge cannot be just passively received; it must be processed, recorded, assessed and categorised by the learner.

Students who are passive learners are not provided with the means and motivation to incorporate the information into their existing understanding. As a result students may view the information as irrelevant to their needs and see it as only being required for specific institutional purposes such as testing and other assessments. This can cause students to separate the information given from any meaningful context in favour of memorising the facts required for assessment. Although students may pass the course there is a 'considerable body of evidence' that students using this approach demonstrate a lack of understanding of the key concepts associated with the topics (Gibbs, 1992). This is most likely due to the fact that knowledge which is separated from the appropriate context can be misinterpreted. The importance of using the correct context has been demonstrated in language research conducted by Miller and Gildea (1987) where students who learnt words in the context of ordinary conversation were able to achieve greater success than children who learnt words from abstract definitions and sentences.

The need to place the information in context may be due to the view that the knowledge of a topic is unchallenged or 'straight forward'. As Pratt (1999) comments 'Teachers holding this [the transmission approach] as their dominant perspective often end up teaching well-defined content, that is, material where there is clear agreement about right answers'. This fits well with traditional views of what legal knowledge should be transmitted to students.

Traditional views of legal knowledge such as Positivism are confined to what is prescribed by statute or common law – essentially it focuses on what the law is, rather than why the law is what it is or what the law ought to be (Wischik, 2002). Adopting a positivist approach means that the study of law is dictated by understanding what has previously been decided or prescribed and then applying it to other situations – it makes no difference if the outcome of such an application is 'unjust' instead it is just a matter of simple deductive argument. Evidence that the law is viewed by business students as being no more than a simple equation is seen in the Frantz & Wilson (2004) study where it was found that men were more likely to achieve success in the legal environment course than women. This finding was credited to the fact that the course tends to be more computational rather than verbal. In essence it was claimed that 'students appear to perceive the material to be more of a numeric puzzle to be solved rather than a literature to be synthesized'.

This systematic approach commonly called the legal method is one of the most popular views of what is considered knowledge in law (Toma, 1999). The popularity of the view is easy to understand, just as sciences can build on 'base knowledge' without questioning the validity of the base, so too can the law be understood and applied without questioning why the law is what it is and without the need to consider what alternatives could exist. This view of the law is believed to create certainty and consistency and so is considered desirable for those who must abide and conform to these 'rules of law' as it enables them to know what the law is and as a result enables them to predict future outcomes (Silbey & Sarat, 1987).

The difficultly in such an approach is that it does not consider other circumstances such as the impact of laws on society nor the impact that society itself can make on law. While the positivist approach or 'legal method' can predict or explain legal outcomes with a high degree of probability it is not infallible. Weaknesses in only using this approach are highlighted when there is 'grey' area of the law where the law does not appear to cover a particular situation. To the positivist this is of no concern as it is a matter for the state to correct with legislation; however the reality is that the business person must act in a way that will not be later condemned. In this situation the context in which the law was made must be understood rather than just blindly accepting the words that are written in statute.

In order for business students to gain the context needed legal educators must look to the environment in which the students will be operating. They must then be able to 'interpret the business legal environment and translate it to a meaningful classroom experience' (Klayman, E. & Nesser, K., 1984). This will require creating a learning situation where the law is not just considered as a series of isolated rules, but instead it is viewed as being a highly relevant and valued aspect of business activity.

## 3. NON-TRADITIONAL VIEWS OF WHAT LEGAL KNOWLEDGE IS

To reach a deeper understanding of the law, alternative views such as critical, interpretative, historical, social constructionist or feminist views may assist. While such views are still just out of the 'mainstream' of legal knowledge, there is a growing appreciation for the need to incorporate such perspectives so as to better understand why the law is what it is. One of the main ways in which these approaches differ from the natural and positivist schools of thought is that there is no 'right answer'. Many of the alternative views see the foundation upon which the law is based as a subject of critical analysis rather than blindly accepting that 'it is what it is'. Since many of these 'alternative' views tends to criticise rather than confer a clear 'answer' it is suggested that they should be considered in combination with 'positivist' views rather than in isolation to provide a fuller account of knowledge (Greenhouse, 1988).

An enhanced understanding which takes account of other values and factors may allow an increased ability to predict the future direction of law which means a combined approach has practical as well as 'academic' benefits. The desirability of a broader view of the law is discussed by Broadbent & White (2003) who have provided interesting comment on the way in which the law is treated in university social work law courses. While some courses of study in this area have relegated the knowledge of the law to knowing what the rules are, Broadbent & White and their colleagues have rejected this approach as it can reduce the ability of social workers to make good 'legal' decisions.

The reasoning for the approach used by Broadbent & White is firstly, the rules may consistently change so just knowing what the rules are means that the 'knowledge' has little value on its own as it must be constantly revised to accommodate new rules. Secondly, Broadbent & White comment that 'an understanding of what values the legal rules are seeking to promote may help to explain why those rules are in place and why courts reach decisions'. As a part of this approach Broadbent & White introduce legal principles by using examples that students are not familiar with so as to 'deconstruct their existing knowledge and reconstruct it with new building blocks, namely the tools of legal analysis'. The overall effect that is achieved by incorporating aspects such as 'why the law is what it is' rather than just 'what the law is' means that students are then better able to understand change and also to make decisions that will be legally 'watertight' in situations that are unfamiliar

By considering the impacts and consequences of law the students are better able to act in situations that are unfamiliar and in a manner that is least likely to cause 'legal' condemnation. This is especially true where 'law' is not the main practice area for the student, for example if he or she is a business student. However, just using alternative views of law is not enough to create deep learning. The methods of communicating the information also need to be addressed. In particular a teaching method that encourages active learning will be needed to assist the students in constructing lasting legal knowledge.

## 4. ACTIVE LEARNING

In the student focused model of teaching, learning is a result of students engaging in activities designed to increase their understanding with the teacher acting so as to facilitate this student exploration of knowledge (Ramsden, 1992). The students are not viewed as passive participants in the learning process, and the teacher is viewed not as the 'sage on the stage' but instead as the 'guide on the side' (Braskamp, 2000). The role of the teacher is not just to provide the information to students - they must also create meaning as to the information. As commented by Ainley (2000) 'teaching, as distinct from merely telling or instructing, therefore involves some negotiation of meaning between teacher(s) and student(s) additional to the competences or techniques involved in communicating the teacher's intended meaning as clearly and effectively as possible'.

Active learning is hampered by the transmission or traditional method of the teaching. Since it is the teacher who decides and informs students of the content then proceeds to transmit it, there is little room for negotiation or other means for students to take an active part in what is being learnt. This means students are not taking ownership of the information; instead it is just a means to an end. However, students can be encouraged to take on new knowledge as a part of their thinking if they have a greater role in <u>finding out</u> the knowledge rather than just passively accepting it. One way of achieving this is to make learning law a process of discovery.

The adoption of a discovery process for learning law can increase academic opportunities for students and educators. The main role of universities is knowledge creation, which in theory should arise through an interaction between teaching and research (McNair, S., 1997). Although this interaction is often reserved to supervision of postgraduate research students it is possible to achieve research stimulus from undergraduate students. The extent to which students can motivate research ideas for educators will depend on the teaching mechanisms used. When the teaching is merely the transmission of facts known by the educator then research ideas will be confined to the existing understanding of the educator. When teaching allows students to actively seek answers then research opportunities will be expanded to incorporate their thoughts and suggestions. This idea that teaching and research can both benefit from each other is also supported by Boyer, E.L. (1990) who states that "through reading, through classroom discussion, and surely through comments and questions posed by students, professors themselves will be pushed in creative new directions". Ultimately both students and lecturers benefit when the curriculum is designed as a discovery process rather than a summary of existing knowledge.

Methods of developing a discovery approach have been suggested by Wiggins, G. & McTighe, J. (1998) who comment that 'to understand any set of results, we need the story behind it'. In particular they use the example of comparing law being learnt only from the final written legislation to learning law by following the process or story as to how the law came into being. The process that Wiggins & McTighe use is begin with 'questions designed to suggest inquires that require key content' rather than 'starting with definitions, laws, and an array of facts'. This approach to learning law gives students a better understanding of the final written words as they have the chance to consider why the law is 'what it is'. In using this process of 'discovery' students are encouraged to think of what influences the creation of laws.

For example, students may be given a task of deciding what laws are needed to assist in the buying and selling of goods. In doing this students could explore how the law seeks to balance individual rights with the need for business efficiency. By posing questions the students are engaged in an active role, rather than just passively receiving the information. Students are also learning to link their knowledge of business activity to law.

Another method of creating a discovery mechanism for students is the use of learning journals. Learning journals allow students to take an active role by reflecting on the value of course content and methods they use to learn the content. The value of learning journals was tested in a study conducted by McCrindle, A. & Christensen, C. (1995) in which biology students were required to keep learning journals. When comparing the control group to the learning journal group it was found that the learning journals allowed students to engage in more sophisticated learning strategies. One result of this increased learning awareness was ‘students saw learning less as a process of acquisition of knowledge and facts and more as a process of comprehension, analysis and interpretation’. Students who understand this process of analysis and interpretation will have an increased motivation to create links between new and existing knowledge which will aid deep learning.

The ability to link existing knowledge to new knowledge is an important part of the deep learning process as students are better able to process new information when it can be related to existing knowledge. (Gibbs, G.,1992). The level to which this processing is developed will depend on the students themselves and their existing levels of knowledge combined with the activities they are given. As such, teaching should ‘take its direction from the learners’ knowledge, not the teacher’s’ (Pratt, 1999), so as to set appropriate activities and level of thought that are consistent with the existing student skills.

While taking the lead from the learner not the teacher has a greater potential to increase deep learning it is not without some difficulties. For example Brookfield (1995) comments that the idea of cutting down lecturing as it ‘induces passivity in students and kills critical thinking’ may not always be a good idea as students still need grounding in the subject. A lack of grounding or base knowledge can impact on the ability of the students to respond to challenges in learning such as developing their own critical analysis of a topic. If the student does not perceive that they have sufficient foundation knowledge they will not be keen to explore ‘unknown’ territory. A lack of knowledge may be overcome by the teacher spending time in the course conveying the necessary knowledge which will later be expanded upon. However, the ability to do this may be compromised in situations where the teacher is required by the institution to cover a large number of topics, with little time being spent on each one. This problem need not mean that the curriculum must be forced into one which promotes surface learning. For example Klayman, E. & Nesser, K. (1984) suggest that where there is a need to include a large number of topics it may be desirable to ‘de-emphasize a rule-oriented approach while opting instead for an emphasis on concepts, trends, and policy’.

The institutional environment may also influence other teaching tools used in this approach, for example small group work is often a desired tool to use in the student focused approach. If the teaching facility does not have rooms that allow for this kind of group work, then it may be difficult to achieve goals obtained by such group work. Another factor to consider is that, even if active learning is being used, there may be some students who do not wish to be learning deeply in a particular topic. In some situations no amount of encouragement may shift these students (Biggs, 2003). As a result the teacher who strongly adheres to the active approach may be disappointed when students either do not have the existing skills required or the desire to go beyond the surface (Brookfield, 1995).

These difficulties may mean many educators are unable to successfully implement active learning. However, this does not mean that deep learning cannot be achieved. The aim of active learning is to engage students and encourage their interest in the topic so they want to ‘make sense’ of the new knowledge. It is this process of making sense of new information that is at the heart of deep learning. This aim of encouraging and engaging can also be achieved by implementing motivational techniques. Motivation will increase students’ incentives to engage in the topic. Students who are motivated will have a stronger desire to ‘make sense’ of new information because students perceive the topic to have relevancy and value. The benefit of using motivational techniques is that they can be used in combination with either active teaching or traditional teaching. This means that educators who are limited in their ability to use active teaching can still increase deep learning.

**5. USING MOTIVATION TO INCREASE DEEP LEARNING**

One motivational theory that has gained some attention from educational theorists is the expectancy-value model, which Svinicki (2004) has adapted and combined with other theories to create an amalgamated model. The expectancy model holds that people will engage in behaviour directed towards a particular goal if the goal is valued and they have a perception that they will be successful in achieving the goal. It has been shown in a recent study (Bruinsma, 2004) that expectancy and value can contribute to the total number of credits gained by students and is linked to deep learning. So the aim for legal educators wishing to motivate students towards deep learning is to seek ways to increase these factors in the context of learning the law.

Some means by which value and expectancy of success may be enhanced have been suggested by Svinicki. In relation to increasing value, Svinicki comments that the use of extrinsic motivators may assist by promoting the positive benefits that come from achieving the goal, thereby increasing the value of the goal. The use of incentives may increase extrinsic motivation, but care should be taken to ensure that such motivators are not 'short lived'. Research conducted by Cameron & Pierce (1994) indicates that the use of extrinsic motivators will only lead to continued motivation and the possibility of intrinsic motivation if the incentive is linked to a level of performance instead of just the performance of particular behaviour. So in order to increase value for students a reward such as praise should be linked to a particular achievement. For example, if students are engaging in a tutorial session praise that is given just for participating may not provide students with continued motivation, however if the praise is for a contribution that has good insight then the student may keep up their motivation.

Limiting rewards to levels of performance does not mean ignoring students who do not reach a level 'worthy' of reward. Instead for these students other techniques may be required. It is possible that these students will need to be shown the relevance that the area of study has to their own lives and the value that others place on the particular knowledge. By creating relevance these students may alter their perception of the value in learning about the topic, and as a result seek to achieve 'worthy' levels.

The idea of increased value through relevance is of particular interest to compulsory business law courses. Often students cannot see how knowledge of certain aspects of the law will assist them in their chosen careers. Due to this lack of perceived relevance students may see the study of law as an intrusion which takes time away from 'important' areas of study. Legal educators can create a positive perception by using examples of the law in action, in the form of either cases or fact scenarios designed to test or clarify the law, that show accountants or managers involved. In areas of the law where this is not available, then examples that are close to the students' 'real life' may help to increase the desirability of obtaining legal knowledge. By using tools such as these educators can not only increase the value of the area - they can also assist students in processing the new information by showing how the new information fits in with existing knowledge.

Using examples that are relevant to the learner need not be confined to the provision of legal materials by the educator. Allowing choice in a research assessment can provide students the opportunity to discover relevance for themselves by selecting an area that has personal significance. This type of assessment can also help to counteract the situation of students 'abdicating responsibility for their own behaviour' which can occur when students feel they have little or no control. The danger of students abdicating responsibility is that it can lead to students blaming or crediting outside factors for their result. Since these students perceive that they play no part in the outcome, it will make no difference to them whether they put in effort or not (Stipek & Weisz,1981).

Increasing student sense of control is important for students undertaking compulsory courses as they have had no input into the decision to take the course and often these courses will have set requirements as to what must be covered. If it is not possible to have choice in assessments, then another way of introducing choice and responsibility is to have 'extra for experts' sessions in the form of additional tutorials or for the last part of a lecture. The sessions can look at particular legal aspects in more depth so as to increase student understanding, and students can choose whether they will attend or stay on. While in most instances this may produce increased intrinsic motivation, as Morgan (1984) points out there is a danger that in saying 'you don't have to do this' it may devalue the activity. As such, an educator should make sure that students know the value of taking the extra sessions and that choosing to take them is positive step that they are taking in achieving learning success.

Value can also be increased by making the area more interesting to study. The link between interest and deep learning has been found in the study conducted by Bruinsma (2004). It was shown that students who found a subject interesting were more likely to engage in deep learning strategies and were more likely to obtain more credits. Creating this interest can be achieved by looking at the way in which materials are presented. Svinicki (2004) mentions that students studying psychology enjoyed reading textbooks on the topic when the texts also contained pictures, graphs, stories and other visually appealing additions. In law the importance of the written word is held so sacred that it is rare for textbooks or other written materials to contain visual accessories such as those described for the psychology books. Yet these visual attractions need not be excluded from the material used for the study of law. Pictures showing a successful resolution to legal negotiation (with the parties shaking hands), or courtroom pictures can be included. Stories from successful businesspeople that have been faced with a legal dilemma could be included. Flowcharts that allow the student to work visually through a difficult area of law can also assist. Use of such visual aids will have a growing importance as generation Y students (those born between 1980 and 1994) increase in numbers in higher education. Research has shown that these students are primarily visual learners who will achieve better results if provided with visual material and opportunities to solve problems with hands-on activities (Weiler, 2004).

Interest in a legal topic can also be enhanced by challenging the learner by providing them with difficult but doable tasks. In deciding ways in which to challenge students it is important to ensure that the tasks are 'doable'. This is particularly important when it is remembered that students will engage in successful learning if they are ready to learn, that is if the topic to be learnt is matched to their developmental level, so challenges that go beyond this level maybe regarded with fear rather than delight. Setting challenges that are unlikely to be successfully completed can also have adverse impacts on the expectancy component of motivation.

Expectancy of success is an important element of motivation. If students do not consider that they are able to achieve a task, they will be less likely to engage in the type of activity needed to obtain success. When tasks are perceived to be difficult the way in which the student reacts can depend on their own beliefs about their competency. Students with a high self-competence rating are more likely to succeed as they feel they are 'up to the challenge' so are more likely to persevere when faced with difficulty and are also more likely to initiate learning activities and strategies that will achieve the goal. Students with a lower self-competence are more likely to give up and thereby create a 'self-fulfilling prophecy as to their ability to achieve the task. One of the influences on student concepts of self-competence is prior success, which is often represented by their GPA (this factor and its association to success in business law was demonstrated by Frantz & Wilson (2004)) or by previous success in the area of study. This means if students are given tasks that are too difficult (by setting an inappropriate challenge) and the result is less than successful, this could impact on the students' self-competence rating and their future attitude towards expectancy of success.

Other means by which expectancy of success can be enhanced have been suggested by Svinicki (2004). One of the suggestions given is to show students the ways in which supposedly unrelated success or skills in other areas can relate to achieving success in a current area of study. By showing that existing skills and/or knowledge can be transferred students may experience a heightened sense of self-competence and therefore increase their expectancy of success. In the context of business law, the exact skills that can be transferred will depend on the students. As one example, many of these students may have backgrounds in finance or accountancy, so emphasising that skills such as analysis of factual data in accordance with set principles can be of assistance in law may lessen concerns that law is a 'foreign topic'.

Students may also increase motivation if an expectation of their success is shared and communicated by their teacher. Svinicki maintains that saying such comments as ‘this is a good class, and I know that you have the capacity to excel on this test’ can lead to an increased expectancy of success. While studies have shown that comments such as this will produce results, it is suggested that such techniques should be considered in the same light as other extrinsic motivators – they need to be linked to a level of performance so that students will accept the comments as a realistic indication of their abilities rather than as superficial flattery. If an educator is able to combine comments as to student success with other examples of how they have already achieved, then the impact on motivation may be greater. For example, a comment such as: ‘You have shown a good understanding of “X” area in tutorials so I know that you will do well in the test’ can help the student to focus on what they have done well and give them confidence that success in that area will lead to success in other areas.

As for tests and other assessments, anxiety about performance in these areas can increase motivation if the anxiety is in a mild form. On the other hand, high levels of anxiety can decrease motivation and the ability of students to perform (Bruinsma, 2004). Anxiety may be reduced by providing information about the tests or giving ‘trial run’ tests so as to lessen the ‘fear of the unknown’ and give students a clear indication as to what is expected from them. The format for answering legal questions is often regarded by students as completely different to other methods of written assessments. Business students are often used to pure essay writing or report formats rather than the hybrid style of legal judgements. If students can be provided with examples of legal assignments or given the chance to submit a practice assignment their fear of legal writing may decrease.

## 6. CONCLUSION

It is possible for legal educators to help business law students achieve deep learning. But for this to happen the educator must understand what factors will increase this style of learning. This requires knowledge of the relationship between the material to be learnt and the learning process that is best suited for it. It is important for students to integrate and construct new knowledge using their existing knowledge rather than keeping it isolated to be used only in the short term for assessment purposes. This means students must be able to see the link between legal studies and their existing skills and knowledge as well as what knowledge will they need to have in their future careers.

Using the traditional approach to what legal knowledge is and how it should be taught can lead to students engaging in surface learning. This will result in a lowered level of understanding as to the law. Those students who have been unable to make a connection with the law and how it fits into the business context will be unable to fulfil the expectations of the business community they seek to join. Students cannot just be taught the rules that govern transactions they must know how it fits into <u>their</u> activities – for example just knowing the rules relating to negligence may not help an accountant draft a letter which avoids ‘third party’ tort liability. So legal educators of business students must ensure the curriculum content emphasises the relevancy and value of the law to business. This knowledge should also be taught in a way where the students are active rather than passive participants.

It is suggested that while there may be difficulties in implementing active learning, educators should aim to incorporate active learning techniques whenever possible. When students undergo an active process they will embrace new knowledge rather than isolate it from existing schema. This means business students will not see law as a separate function from business activity. Instead it will become a part of their functioning knowledge as a business graduate.

For educators who are faced with difficulties in implementing active learning the ability to create deep learning may be provided by the use of motivational techniques. Motivation techniques can be incorporated without the need for major changes to a course. The benefit of increasing motivation is that it enables business students to see the relevance and value of law to their current and future needs. If students can see that the knowledge they are obtaining will have a use they will be more accepting of learning that knowledge. Students who want to accept new knowledge are more likely to use deep learning processes. This in turn will lead to the lasting type of legal knowledge expected of our business graduates.

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# EVALUATING A PROGRAM'S LEARNING OBJECTIVES THROUGH THE CAPSTONE PROCESS

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## ABSTRACT

*At St. Petersburg College, students are required to demonstrate major learning objectives of the College of Technology Management degree programs through a senior-level capstone course. The capstone project course allows students to work through the specific projects of either building a business plan, documenting a process improvement process, or writing a proposal for a new technology system. The experience of working through a course with structured guidelines under the direction of a faculty member provides both the student and the college with tangible evidence of the skills that students have developed in the baccalaureate programs. Elements of the course also provide the means by which the program itself may be analyzed for future improvements. This paper will describe the evolution of the capstone process at St. Petersburg College and the method by which the College of Technology and Management utilizes the data collected to enhance the curriculum to attain the goals and learning objectives of the baccalaureate programs.*

***Keywords***: *Technology Management, Capstone Experience, Capstone Process, Curriculum, Program Assessment*

## 1. INTRODUCTION

St. Petersburg College (SPC) is a public regional community college serving more than 24,000 students (unduplicated headcount) in St. Petersburg, Florida. In December 2001, (http://www.spcollege.edu/webcentral/welcome/facts.htm) the state of Florida granted St Petersburg College (formerly St Petersburg Junior College), the right to confer baccalaureate degrees in the fields of technology management, education, and nursing. In developing the curriculum for the College of Technology & Management at SPC, a senior capstone project was designed and implemented as a core course to be taken by all students pursuing a Technology Management baccalaureate degree. As the program evolved over the next three years, so did the capstone process and course requirements.

### 1.1 CAPSTONE PROCESS EVOLUTION

For the first capstone course design in 2003, a *student development approach* was implemented where students worked through case studies and answered questions designed to demonstrate learning at the bachelor level (Rowles, Kroch, Hundley and Hamilton, 2004). As the program evolved, so did the capstone process.

The second approach in 2004, was project based. Students selected a project option — business plan, systems requirement document, or a white paper on technological advances. The capstone project course was administered in the learning management system WebCT. Additionally, a series of six examinations were given to evaluate student success for six specific core courses in the program. The independent project portion of the course again emphasized a student development approach where students worked individually to demonstrate the knowledge and skills acquired throughout their course of study (Rowles, Kroch, Hundley and Hamilton, 2004).

In 2005, the capstone course process came under review as St Petersburg College moved to a new learning management system, ANGEL. At that time, administration and faculty decided to move from a student development approach to a program assessment approach (Rowles, Kroch, Hundley and Hamilton, 2004). This was accomplished by: 1) eliminating the series of six core-course based examinations because students previously demonstrated competency in the core courses at the time they completed them; 2) adding structure to the project through tutorials, intermediate milestone deadlines, and project templates; and 3) assessing the curriculum by looking at individual courses and evaluating the common threads of the program learning objectives to ensure that the students accomplished the goals of the program. To revise the capstone course, the College of Technology and Management solicited the advice and support of its board of advisors — a group of industry and educational leaders whose main focus is to assist the program as changes are made to the curriculum.

### 1.2 PROGRAM LEARNING OBJECTIVES

After assessing the curriculum, the courses, and the program learning objectives, the capstone process was redesigned to provide students with the means to develop and demonstrate competencies in the identified six program learning objectives: 1) use entrepreneurial skills to develop and manage the business including the appropriate use of electronic commerce strategies to enhance profitability of the enterprise or business unit; 2) apply excellent oral and written communication skills and leverage technology to enhance communications, marketing and decision-making within and outside the organization; 3) manage a business or business unit with global and locally acceptable legal and ethical boundaries employing sound organizational behavior practices within cross-cultural environments; 4) employ creative and critical thinking to enhance problem solving and improve quality in a global business or manufacturing environment; 5) exhibit analytical thought, informed judgment in practice as well as a tolerance for ambiguity and cultural diversity; and 6) use project and quality management strategies, human relations skills as well as team-building and motivational skills to create high performance work teams that succeed in local and international projects.

## 2. LITERATURE REVIEW

In the capstone course, where student development is the main focus, the main course activities are designed to emphasize the culminating achievements that the student has attained. Additionally, the course reinforces the student's ability to transition those experiences into the future for further education or career advancement. An individual student's capstone course experience is organized around assessment of the program-level student learning outcomes, which are designed to find out what the student knows and how the student can apply that knowledge. The measured results of student accomplishment are used to improve instructional practices as well as to provide accountability to employers, accreditation officials and policy makers. The capstone course can be used also to facilitate the integration of the major learning objectives of the program (Rowles, Kroch, Hundley and Hamilton, 2004).

Brown and Benson (2005) report that the development of the capstone course was recommended by the American Sociological Association as a way to provide an in-depth study of the curriculum it serves. The capstone course has evolved to become a critical performance assessment of a program that allows students to demonstrate their knowledge in an applied setting. One benefit the authors found in their study of the capstone process was that students were encouraged to apply those skills in a relevant and meaningful way. Chew and McInnis-Bowers (1996) stated that the capstone experience course could be used to evaluate the performance of the academic program and also assist in the assessment of the individual student capabilities.

Sonner (1999) found in her study that capstone classes are usually taught under a variety of names and that the class requires students to have a firm grasp of all the core courses of the program as it is unique and integrates multiple concepts from those core courses. According to Allard and Straussman (2003) designing a capstone process should integrate knowledge and skills learned throughout the curriculum including oral and written communication skills. Students should be given the opportunity to apply the knowledge resulting from their coursework that will prepare them for their professional careers.

Giaculone, Jukiewicz, and Knouse (2003) found in building a capstone project course that students require deadlines on assignments and detailed structure to avoid procrastination. The authors also reported that students require continuous contact with faculty members to assist them in keeping to the structured schedule of assignments. Also, Rhodes and Agre-Kippenham (2004) claim that utilizing the capstone process as an assessment tool requires involvement of faculty in all phases of the process from development, implementation and analysis as the course should provide invaluable information about instruction and the overall quality of the program.

## 3. CURRENT CAPSTONE PROCESS

Generally it is agreed that the capstone project course is designed to allow the student to demonstrate the skills they have acquired over the course of their studies (Allard and Straussman, 2003), and complete a significant research project of their choosing. Before students are allowed to submit outlines for their capstone project, it is widely recommended that they must have reached senior status (i.e. 30 hours or less to graduate). Since the capstone project is designed to represent the culmination of students' learning through core and elective courses (Sonner, 1999) in a bachelor program, it is ordinarily taken in the final semester of study. At St. Petersburg College, this does not mean that students cannot begin to think about their project earlier in their studies as they are encouraged to consider potential capstone projects that are raised during courses they take and opportunities they have at work. At SPC, students are allowed to enroll in the Senior Capstone course after they have reached senior status and have completed their core curriculum coursework.

### 3.1 CAPSTONE PROJECT AND PHASES

Currently in the College of Technology & Management at St. Petersburg College, students have three project formats to choose from: 1) Business Plan; 2) Process Improvement Plan; and 3) Systems Requirements Plan. Each project plan has tutorials, milestones, and templates set up in seven structured steps to guide the student and the project in a phased approach over a 16 week semester to its conclusion. The course is maintained in the learning management system ANGEL, and has 5-12 students per faculty member for each 16 week fall or spring semester. Although the course is designed for individual student participation, the students within and across different sections of the capstone project ANGEL classes may interact during the semester to assist each other with projects.
During the Introduction phase 1 (Weeks 1-3), students read the three project plan tutorials to decide which one they want to follow for their senior capstone project. Additionally during phase 1, students complete required tutorials and a short quiz covering library research and proper APA and MLA source citation.

Phase 2 (Weeks 4-6) includes three structured steps of the identified plan. Using the Business Plan option as an example, Phase 2 milestones include: 1) Table of Contents and General Company Description, 2) Management & Organization of the Company, and 3) Products and Services Offered. Similar structured milestones are required in Phase 2 for the Process Improvement Plan and the Systems Requirement Plan course options. Students submit the entire document each week so faculty can evaluate the continuity of progress more easily. Each student must show satisfactory progress at the end of each phase in order to continue the course work. Faculty members are allowed to drop students who fail to meet key milestones satisfactorily.

Phase 3 (Weeks 7-10) includes the final four structured steps of the identified plan. During Phase 4 (Weeks 11 and 12), students combine a title page, signature pages, an executive summary, the previously completed major sections of the paper, a conclusion, appendices and references (work cited, etc) into their final paper.

Students then prepare a PowerPoint ® presentation of their project and provide an oral presentation during Weeks 13-14. Weeks 15-16 are set aside for any rewrites and final work. Additionally, students are required to submit a final student feedback form to provide faculty with suggestions for the program and feedback about the capstone process.

### 3.2 CAPSTONE CHAIRPERSON AND COMMITTEE

Each section of the capstone course is managed by a capstone chairperson. The capstone chairperson is the instructor for the capstone course and is a member of the full-time or adjunct faculty at the College of Technology and Management. The capstone chairperson is a student's key contact throughout the capstone project process. Each student progressing through the capstone process has a 2-3 member capstone committee which consists of: 1) capstone chairperson; 2) capstone committee member (1-2 members); and 3) additional capstone committee member (optional). The capstone committee is chosen by the student (with the exception of the capstone chairperson) and approved by the capstone chairperson.

### 3.3 CAPSTONE PRESENTATION AND EVALUATION

Presentations are open to all members of the St Petersburg College community and the board of advisors. Students present their final capstone projects in a regular classroom that is equipped with a laptop with an internet connection and a projector. Students are asked to bring the presentation, handouts (if needed), and two copies of their capstone project which is made available to the audience. Students are allotted 30 minutes for their oral presentation. The first 15-20 minutes is for the pre-prepared presentation and slideshow. The last 10-15 minutes are for a brief question and answer oral examination. Students are not allowed to exceed the time allotment and therefore students are encouraged to practice and time their presentation. Students are required to dress in comfortable professional business attire. After the presentation, the committee confers in private and then requests the student to make changes, additions, or clarifications to enhance the final quality of the capstone project.

Immediately following the presentation, the capstone chairperson and the committee members complete a presentation evaluation form. The student is rated on a scale of 0-10 (poor to excellent) in ten areas. The first six areas are used to measure the student's ability to demonstrate the overall program learning objectives through their senior capstone project. The last four areas are used by the evaluators to rate the presentation itself. The evaluation form is also used as a tool for the capstone chairperson and the committee members to suggest revisions of the project to the student if needed.

In the fall semester of 2005, and the spring semester 2006, 67 students completed the newly redesigned senior capstone project course. In interpreting the data gathered from the capstone evaluation process (Table 1), the College of Technology and Management found that although the ratings were all above average, there were two areas where students could improve—Oral-Written Communication skills and Presentation skills. The Organizational Communications course is where the skills associated with these Program Learning Objectives are introduced and developed. This course is targeted for evaluation and revision during the summer of 2006.

**TABLE 1. CAPSTONE EVALUATION RESULTS**

| Category | Rating Criteria | Average Score |
|---|---|---|
| 1 | Entrepreneurial and Innovative Skills | 8.0 |
| 2 | Oral and Written Communication Skills | 7.8 |
| 3 | Business Acumen and Organizational Skills | 8.0 |
| 4 | Creative Problem Solving Skills | 8.0 |
| 5 | Informed Judgment and Analytical Skills | 8.0 |
| 6 | Project Management Skills | 8.1 |
| 7 | Presentation Skills | 7.7 |
| 8 | Problem Well Defined and Reasonable Solution | 8.1 |
| 9 | Handling Questions Skills | 8.2 |
| 10 | Overall Quality of Work | 8.0 |

## 3.4 CAPSTONE PROGRAM FEEDBACK

After students have completed, and passed all milestones for the senior capstone project, they are asked to provide their evaluation of the College of Technology and Management (Table 2 – Part A) through a series of open-ended questions on the capstone process, skills, courses and the overall program itself. Students are then asked to complete a questionnaire (Table 2 – Part B) designed to gather informative data about core and elective courses, career advancement, and their perceived value of the overall program. Students are required to fill out the capstone feedback form and submit it through Weeks 15-16 assignment drop-box in the ANGEL learning management system.

In analyzing students' program feedback results from 64 responses (Table 2- Part A), the College of Technology and Management has decided to implement the students' recommendations of: 1) additional capstone course project options with applicable tutorials and templates; 2) align project plans to faculty based on expertise; and 3) add an option of students working in teams to complete the senior capstone project. On the program-level, based on students' responses it was decided to review and investigate further: 1) adding an additional process course, and an entrepreneurship course to the curriculum; 2) team assignments in on-line courses; and 3) the organization of the College of Technology and Management's website.

In analyzing the students' program feedback results from these 64 responses (Table 2- Part B), the College of Technology and Management found that students valued the overall program, and core and elective courses for career advancement. The students reported also that the program was a valuable educational experience.

**TABLE 2. CAPSTONE PROGRAM FEEDBACK RESULTS – PART A**

| | |
|---|---|
| **QUESTION 1:** | What would you do differently if you could redo your Capstone project - from the start? |
| **QUESTION 2:** | What have you learned in the process of conducting your work for your Capstone Project? |
| **QUESTION 3:** | What skills (Innovative, Oral/Written Communication, Business Acumen, Creative Problem Solving, Informed Judgment, and/or Project Management) did you use most during your Capstone project? What courses supported the development of these skills? |
| **QUESTION 4:** | There has been some concern about the amount of work required in the core courses. What courses offered too much (or too little) material for the class time? |
| **QUESTION 5:** | What course(s) do you wish you had taken so that you could have done a better job on your Capstone Project? |
| **QUESTION 6:** | Knowing what you know as a graduating student, if you were re-designing the College of Technology and Management Program, what changes would you consider? Please make up to (but no more than) five suggestions. |

**TABLE 2. CAPSTONE PROGRAM FEEDBACK RESULTS – PART B**

| QUESTIONS 1-8 | Strongly Agree (5) | Agree (4) | Undecided (3) | Disagree (2) | Strongly Disagree (1) |
|---|---|---|---|---|---|
| This program helped you find a new career or helped you advance in your current one. | 25 | 23 | 14 | 2 | 0 |
| The core courses offered were more valuable than the elective courses for career advancement. | 10 | 25 | 18 | 11 | 0 |
| The core courses and prerequisites offered gave you the foundation necessary to succeed in the elective courses. | 21 | 26 | 9 | 6 | 1 |
| The elective courses offered allowed you to specialize in an area of technology management that could help your career path. | 29 | 25 | 9 | 1 | 0 |
| The Technology Seminar course was valuable for career advancement. | 14 | 33 | 9 | 7 | 1 |
| The Capstone Course was valuable for career advancement. | 30 | 29 | 5 | 0 | 0 |
| Overall this program was a valuable educational experience. | 46 | 18 | 0 | 0 | 0 |
| Overall this program gave you the opportunity to apply concepts on the job that made a difference to your company and career. | 35 | 21 | 7 | 0 | 0 |

## 5. CONCLUSION

The redesign of the capstone process from a *student development approach* to a *program assessment approach* has been a successful endeavor. The new format allowed students to demonstrate acquired skills set forth by the program's major learning objectives by aligning student learning and skill adaptation with the culminating senior capstone project through a structured approach (Chew and McInnis, 1996). Student success with the capstone course process improved with the revised version of the course, which implied that the new milestone-based course structure was beneficial for students to keep focused and to prevent the tendency to fall behind schedule or let the scope of the project grow as ideas emerged (Giaculone, Jukiewicz, and Knouse, 2003). Faculty involvement from the onset was also a major success factor as it streamlined both the student and the faculty workload and made the course and the workload more manageable throughout the 16 week semester (Rhodes and Agre-Kippenham, 2004).

Finally, the ability to assess and improve the program (Benson and Brown, 2005) through the learning objectives and student feedback was a significant success factor for the redesign of the course. The College of Technology and Management will continue to evaluate the capstone course experience as the program continues to grow and expand at St Petersburg College.

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# ESTABLISHING BRAND NAMES BY EXAMINING THEIR RELEVANCE, CONNOTATION AND PRONUNCIATION: PRELIMINARY FINDINGS

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## ABSTRACT

*When a company decides on a brand name for a new product or service, whether the name is to be used domestically or internationally, it establishes the foundation of the brand's image. The selection of the proper brand name is one of the most vital marketing decisions an organization will make since it is typically the centerpiece of introductory marketing programs. While there is little doubt the brand name is an integral piece of an organization, its precise contribution to the organization is usually difficult to quantify. Indeed organizations are often befuddled when attempting to understand the incremental utility or value added to a product by its brand name. But the potential potency of a brand name is undeniable, as evidenced from John Stuart, former Chairman of Quaker Oats Ltd.: "If the business were split up, I would take the brands, trademarks, and goodwill, and you could have all the bricks and mortar—and I would fare better than you".*

*Marketers must be particularly concerned with selecting a brand name since it is the most difficult brand element for them to subsequently change due to its close tie to the product or service in the minds of consumers. Thus, brand names are often systematically researched before being chosen. Creating a brand name is typically a daunting task. Fox noted that most of the challenges for creating and promoting new brands are the same across industries. Some of the challenges include keeping it simple, making it easy to pronounce, making it memorable, gaining legal clearance, making sure that there are no negative connotations (in any language), and being distinctive. He offered additional insight into the future of branding trends: brand names will sound more technical; more brand names will start with an "X" or a vowel because they will be easier to register (i.e., legally clear) and, ideally, will be distinctive; more brand names will be contrived; generic descriptors will become more important, given more coined names, which often need clarification; more attention will be devoted to logos to help distinguish a brand from competition; and keeping it simple will still apply.*

*By recognizing the importance of the brand name in new product development, more companies are spending substantial resources in creating effective brand names. Many researchers have also devoted efforts to delineating the characteristics, functions, and principles of effective brands names. However, most of this research has been normative and empirical testing of these principles is scarce. Aiming to fill this gap, this research attempts to advance the literature by empirically examining the effects of relevance, connotation, and pronunciation on consumers' preference for new brand names.*

*We examined the following hypotheses:*
*H1: Relevance of new brand name to product category contributes to brand preference.*
*H2: Positive connotation of new brand name contributes to brand preference.*
*H3: Easy pronunciation of a new brand name contributes to brand preference.*
*H4: Positive connotation enhances the effect of relevance on brand preference.*
*H5: Difficult pronunciation reduces the effect of relevance on brand preference.*
*H6: Difficult pronunciation reduces the effect of connotation on brand preference.*
*Two studies were included to test the research hypotheses. The first one was a field study. Its data were provided by Ashton Brand Group, an international brand consulting firm that assumed the brand name creation project for Vencor, a health care organization. In the field study, all variables were measured. The second study was a laboratory study. Data were collected from college students with soft drink as the focal product. In the laboratory study, an experiment was designed and all independent variables were manipulated.*

*In both cases, connotation has a positive effect on brand preference, supporting H2. Further, it is clear that the effect of connotation on brand preference was relatively weaker for those who had incorrect pronunciation. This supports H6.*

*Neither the interaction between relevance and pronunciation nor that between relevance and connotation was significant. Thus, neither H4 nor H5 is supported. On the other hand, the main effects of both relevance and pronunciation are significant and in the expected direction. Therefore, both H1 and H3 are supported.*

*In conclusion, field research and a laboratory study were conducted to empirically examine the effects of brand relevance, connotation, and pronunciation on consumers' preferences for new brand names. The context theory of memory retrieval and the simplicity principle provided the foundation for our research hypotheses. In both cases, study results supported the main effects of relevance, connotation, and pronunciation of brand names on consumers' brand preference. In addition, results showed that the contribution of connotation will be attenuated if the brand name is difficult to pronounce.*

## HE SAID – SHE SAID: GENDER AND ETHICAL DECISION-MAKING AMONG UNDERGRADUATE BUSINESS STUDENTS

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### ABSTRACT

In this paper, we present the results of implementing an exercise designed to help undergraduate students understand different ethical decision-making strategies and make reasoned ethical decisions in diverse teams. In our study, students analyzed an original mini-case based on a true international business situation. They learned and used ethical decision-making approaches, both individually and in culturally diverse groups. We presented students with six ethical decision-making approaches and asked them to record their preferred approach and to advise the entrepreneur in the case. Students then shared their ethical decision-making and reasoning strategies with each other and attempted to reach consensus on the approach and advice to be used.

We present and discuss differences and similarities in students' ethical decision-making by gender. At the broadest level, we found that females were less likely to advise paying what we called a "bribe" than were male students. Additionally, we found that females were far more likely to choose Legalism and far less likely to choose Cultural Relativism than their male counterparts. We conclude that there were gender differences in both students' ethical decision-making approaches and the results of these decisions. We also concluded that an ethical decision-making exercise improves student learning about their own and others' ethical decision-making approaches and understanding of other student's ethical decision-making in culturally diverse teams.

**Key words:**
Ethics, decision-making, class exercise, cultural diversity, gender.

### 1. INTRODUCTION

Today's business leaders must meet higher standards of fairness, integrity, and emotional intelligence (Goleman, 1998; Goleman, Boyatzis, & McKee, 2002). These standards require them to work effectively with diverse people (Gardenswartz & Rowe, 1998), to make decisions with managerial integrity (Mayer & Davis, 1999), and to make reasoned ethical decisions (Dahl, Mandell, & Barton, 1987; Mallinger, 1997).

In this study, we develop a framework of ethical decision-making approaches and collect data from management students who responded to a mini-case about international business practices. The students resolved an ethical dilemma individually and in diverse teams. We then analyze their ethical choices and ethical decision-making approaches based on gender. Finally, we discuss implications for student learning about ethical decision-making both individually and in diverse teams.

### 2. LITERATURE

#### 2.1 Ethics

The collapse of major corporations has refocused attention upon the study of ethics in the management classroom (Hartman, 2006). Ethics are the moral principles of right and wrong that guide a group of people and affect individual behavior (Messick & Bazerman, 1996; Daft & Marcic, 2001). Theoretical models link culture, environment and personal characteristics to ethical decision-making approaches and ultimately to ethical behavior (Hunt & Vitell, 1991; Swaidan & Hayes 2005). Gender refers to socially constructed categories based on one's biological sex (Lorber & Farrell, 1991; Elsass & Graves, 1997). This study explores the link between students' gender and their ethical choices and ethical decision-making approaches.

### 2.2 Ethical Decision-Making Approaches

We build upon the theoretical model of Hunt and Vitell (1991) which links culture, personal characteristics and environmental conditions to ethical decision-making approaches and ultimately to ethical behavior. This model originally written as the "General Theory of Marketing Ethics" has been extended to business professionals and students (Hunt & Vitell, 1991; Phatak & Habib, 1998; Swaidan & Hayes, 2005). In these models, culture and personal characteristics affect ethical approaches which in turn affect ethical behaviors.

Ethical approaches in this study are based on Dahl's et al. (1987) and Mallinger's (1997) ethics exercises, which specify five ethical decision-making approaches: Categorical Imperative, Enlightened Self-Interest, Legalism, Light-of-day, and Utilitarianism based on the work of Pegano (1987). We add a sixth dimension, Cultural Relativism, because research contrasts Cultural Relativism, Legalism and Categorical Imperative as major non-consequential (behavioral rule based) ethical decision-making approaches with other consequential (outcome based) ethical approaches such as Utilitarianism, Enlightened Self-interest and Light-of-Day (Miesing & Preble, 1985; Dahl et al., 1987; Tsalikis & Nwachukwu, 1988; Singhapakdi, Vitell & Leelakulthanity, 1994).

The Categorical Imperative approach relies upon absolute rules and universal "laws" that must be followed regardless of the situation at hand. Their veracity unquestioned, these rules are assumed to govern everyone's behavior (Hunt, 1991). The Legalism approach argues that decisions should be based on society's laws or policies (Pegano, 1987; Kolb, Osland, & Rubin, 1995). These laws form an objective standard by which decisions are evaluated. Thus, if a decision is prohibited by law or policy, then it is unethical. Cultural Relativism argues that what is ethical depends upon cultural norms— not absolute truth (Herskovits, 1947, 1972; Nill & Shultz, 1997). Based upon adapting to cultural differences, this approach advises that, within reason, "When in Rome, do as the Romans do." Decision-makers using the Enlightened Self-Interest approach determine the costs and benefits to themselves. Enlightened Self-Interest requires decision-makers to analyze the facts logically, to determine the effects of alternatives and consequences on themselves, and to choose the option with the most favorable consequences for themselves (Locke 2002). Decision-makers choosing the Utilitarianism approach use cost/benefit analyses to determine how various options impact others. They seek to optimize the number of people that would benefit from the decision at hand. Attributed to Jeremy Bentham (1748-1832) and later modified by John Stuart Mill (1806-1873), this approach is often based upon seeking "the greatest good for the greatest number" (Hunt, 1991; Mallinger, 1997). Using the Light-of-Day approach, the decision-maker determines "rightness" by calculating the costs and benefits that occur if the decision becomes public knowledge- particularly to those whose opinions the decision maker values. Popularly nicknamed "the newspaper standard" (Steiner & Steiner, 1985; Mallinger, 1997), the decision-maker asks, "Would I make the decision if it were printed on the front page of the newspaper?"

### 2.3 Gender and Ethical Decision-Making

Researchers who view gender through a cultural socialization lens find numerous value-related and conversational differences (Case, 1990; Tannen, 1990; Case, 1993). Some theories suggest that gender affects ethical choices and approaches. Scholars argue that females are more likely to base their decisions on an Ethics of Care that values principles of being responsible towards others, maintaining relationships and minimizing harm to others, whereas males are more likely to base their decisions on an Ethics of Justice that values competition and rights (Gilligan, 1982; White & Taft, 2004). McCabe, Ingram and Dato-on (2006) argue that gender identity theory proposes a more multifaceted notion of gender. Nonetheless, they still find that men and women differ when faced with "bribery," which they define as "the giving and receiving of gifts in exchange for preferential treatment." They show consistent evidence that female students are less likely to engage in these types of payments than male students.

Proposition 1 – Women are more likely not to choose to pay a bribe than male students in ethical scenarios.

Men tend to use ethical approaches such as Machiavellianism or Enlightened Self-Interest (Miesing & Preble, 1985). The Ethics of Rights approach, which focuses on market transactions, property rights and justice, is also more consistently used by males, (Rabouin, 1997). Gender effects on student ethical decision-making are mixed (Collins 2000). Miesing and Preble (1985) show that males and females differ widely on Cultural Relativism and that women are more likely than men to believe a course in business ethics should be required. Gender effects may be stronger than country effects in determining a student's ethical decision-making choices and approaches. The Whipple and Swords (1992) study of business students shows that female respondents are more likely to express ethical attitudes even when controlling for national origin. However, Clarke and Aram (1997) find no significant gender differences, even when controlling for country effects, among graduate students faced with an entrepreneurial ethical dilemma. Using scenarios, Erdener (1996) finds significant differences in ethical perceptions of undergraduate business students enrolled in management courses between males and females for Utilitarianism and individual rights but not for justice. In their study, the gender effect is also more significant than the country effect. Volkema (2004), in a study of graduate business students, finds that males are more likely than females to agree that "competitive and questionable negotiating behaviors (p. 70)" are appropriate and will indicate a higher likelihood of using these approaches. Roxas and Stoneback (2004) study junior and senior accounting students and find that females are more sensitive than males to ethical scenarios. Su's (2006) study of accounting students shows that males are less likely than females to engage in whistle blowing in the absence of legislation. This study also shows that females are less tolerant of ethical dilemmas than male students and more concerned with legalism.

Proposition 2 – Men are more likely to use Enlightened Self-Interest than women in making ethical decisions.

Proposition 3 – Women are more likely to use Legalism than men in making ethical decisions.

## 3.0 METHODOLOGY

Using an originally designed mini-case, we ask students to advise an American entrepreneur (George Williams) who is entering a new market in Thailand (James & Smith, 2006). In the case Mr. Williams faces an ethical dilemma when dockworkers expect him to pay them above the documented rate in exchange for prompt delivery of a key product. Students are individually and collectively asked to advise George Williams and to select an ethical decision-making approach on which they base their decision.

This qualitative, exploratory study uses an exercise that was pilot-testing in four other classes. After pilot testing, we collected data from twelve classes of undergraduate organizational behavior and introduction to management courses from 2002 to 2004. We collected data from a total of 301 undergraduate students, with responses from 292 students.

### 3.1 Gender and Demographic Measures

Students complete a separate questionnaire at the beginning of the class indicating their gender, racioethnicity and national origin. The sample consists of more males (58%) than females (42%). The data are collected from required courses at a predominantly White, Christian-oriented university; thus, the sample consists of more ethnic majority (i.e. White) group members (65%). The other racioethnicity groups are Asian (18%), Hispanic (8%), Black (5%), and other (4%), with no students indicating Native American. While students did indicate their national origin, the 292 students are grouped into two categories – US and non-US. Most students (78%) report that the United States is their country of origin, while the remainder (22%) indicate that their country of origin is outside of the United States. Students come from 35 countries, including the US. Other than the US, the next largest groups are from Hong Kong (5 students), Thailand (5 students) and Taiwan (4 students).

### 3.2 Ethical Decision-Making Measures

Ethical choice is based on a student's decision to pay or not to pay the "bribe." Using bribery scenarios is a common way to study ethical decision-making (Kohls & Buller, 1994). While giving gifts in some cultures is acceptable, bribery is considered an illicit transaction (Longenecker, McKinney & Moore, 1988; Grunbaum, 1997; Lovett et al., 1999; Cherry et al., 2003). Scholars use scenarios of bribes or kickbacks because "the giving of gifts and bribes was found to be considered 'unethical' by their respondents" (Hunt & Vitell, 1990, 243). Lysonski and Gaidis (1991) use a scenario of paying a bribe in an Asian country in order to do business in that country similar to the case that is used in this research. McCabe, et al. (2006) found gender differences in ethical decision making when using bribe scenarios.

Ethical decision-making approaches are based on the six approaches previously described. Five approaches, Categorical Imperative, Cultural Relativism, Enlightened Self-Interest, Legalism, Light-of-Day, and Utilitarianism are used by other scholars (Pegano, 1987; Dahl et al., 1987; Mallinger, 1997). Dahl et al., (1987) and Mallinger (1997) also use these approaches in an ethical decision-making exercise using scenarios or mini-cases. The sixth approach, Cultural Relativism, is added based on research which suggests that this is an important approach in cross cultural studies of ethical decision-making (Miesing & Preble, 1985; Tsalikis & Nwachukwu, 1988; Singhapakdi, et al., 1994; Grunbaum, 1997; Vitell, Paolillo & Thomas, 2003.)

### 3.3 Methods

This study uses qualitative methods and descriptive statistics to analyze student selections of ethical choices and ethical decision-making approaches by gender, racioethnicity and national origin. These selections reflect their advice given to the entrepreneur in the case. Dahl et al. (1987) use a case and questionnaire to evaluate ethical decision-making approaches of business students. Mallinger (1997) uses an ethical decision-making case to test differences in ethical decision-making approaches by American and German students. Researchers argue that student evaluation of cases and scenarios are useful tools in ethics education, particularly in situations involving bribery or grease payments (Longenecker, McKinney & Moore, 1988; Tsalikis & Tour, 1995; Mallinger, 1997). This study uses an original case based on a real life business situation to study students' ethical choices to pay or not to pay a "bribe" and their ethical decision-making approaches.

## IV. RESULTS

**TABLE 1: FREQUENCY OF STUDENT ETHICAL CHOICES BY GENDER**

| Ethical Choice | Do Not Pay | Pay | Undecided | No Response | Total % | Count |
|---|---|---|---|---|---|---|
| Males | 38.1% | 42.3% | 13.1% | 6.5% | 100% | 168 |
| Females | 67.7% | 15.3% | 11.3% | 6.7% | 100% | 124 |
| % of Total | 50.7% | 30.8% | 12.3% | 6.2% | 100% | 292 |
| Count | 148 | 90 | 36 | 18 | N/A | 292 |

### 4.1Gender Effects on Ethical Choices

Proposition 1 was supported. Males and females differ widely as to whether or not to pay the bribe. Females are almost twice as likely not to pay the bribe and males are three times more likely to pay it.

**TABLE 2: FREQUENCY OF STUDENT ETHICAL DECISION-MAKING APPROACHES BY GENDER**

| Ethical Decision-making Approach | Utili-tarian | Enlightened Self-Interest | Legal-ism | Cul-tural Rela-tivism | Light of Day | Categor-ical Imper-ative | Undecided Or Absent | Total |
|---|---|---|---|---|---|---|---|---|
| Males | 12.4% | 10.7% | 11.8% | 26.6% | 3.6% | 8.3% | 26.6% | 100 % |
| Females | 12.9% | 8.1% | 22.6% | 8.1% | 5.6% | 15.3% | 27.4% | 100 % |
| % of Total | 12.6% | 9.6% | 16.4% | 18.8% | 4.4% | 11.3% | 28.0% | 292 |
| Count | 37 | 28 | 48 | 55 | 13 | 33 | 78 | 292 |

Results show both similarities and differences in ethical decision-making approaches chosen by gender. Overall, students choose Cultural Relativism more than any other ethical decision-making approach. This occurs due to the large number of non-US born students who select this approach: almost 4:1 over US born students. Table 2 shows that males prefer Cultural Relativism to any other approach. These results do not support proposition 2. In a closer review of the data, Asian males select this approach most frequently. Males, regardless of nationality, are more than 3 times as likely as females to select this approach. Females prefer Legalism, thus supporting proposition 3.

## VI. DISCUSSION AND CONCLUSIONS

We reason that because male students are more likely to choose Cultural Relativism, they adjust their decisions based upon their perceptions of the norms of the country in which business is being conducted. They likely reason that paying a “bribe” or “grease payment” in Thailand is the norm, thus they are more likely than females to recommend paying the extra money. Using the literature on gender socialization, the male students may have been more likely to advocate paying the bribe to maintain a competitive business position (Tannen, 1990). Similarly, we reasoned that females’ strong reliance upon Categorical Imperative and Legalism for ethical decision-making led them to hold to absolute, more objective standards of right and wrong and to choose more socially-oriented approaches. Given that females likely consider paying a bribe to be “wrong,” we reasoned this leads them to consistently reject the idea of paying it. Research on gender proposes that females are likely socialized to value principles of harmonious relationship with others over competition (Gilligan, 1982; Tannen, 1990: White & Taft, 2004). If this is so, given that harmonious relationships are partially dependent upon group members adhering to socially-accepted rules, females may be less likely to break or bend the general rule in the US that bribing people is “wrong.”

Students demonstrate understanding differences in ethical decision-making perspectives. They listen to how others resolve issues and seek out diverse opinions before reaching a conclusion. They recognize different perspectives and styles of males and females and use various approaches to resolve conflicts and reach group consensus on ethical choice and approaches. Resolution of these differences includes using active listening and focusing on key moral issues.

Students learn to distinguish ethical decision-making approaches, identify alternatives, and clarify their perspectives and responses to ethical dilemmas in diverse groups. Evidence of the activity’s impact occurs when students mention the activity in their final papers and in subsequent class discussions. Reflection papers show that they learn different ethical decision-making approaches and improve their functioning within diverse teams. They integrate ethical decision-making choices and approaches with other decision-making theories and relate this exercise to team dynamics and conflict resolution.

Future research on ethics is needed to both improve students’ ethical decision-making skills and to understand the social, cultural and organizational influences on ethical decision-making. In future data collection efforts, we intend to add a fourth form that asks students if they change their individual opinion to pay or not pay or their decision-making approach based on the group discussion and class exercise. We also plan to collect additional data at a non-Christian university to see if the organizational culture and value system affects students’ ethical choices and/or approaches. While this research is cross-sectional, longitudinal studies of ethical behavior (perhaps over the course of a year) would enrich such research.

The activity we present in this paper can be used to improve students’ ability to make sound ethical decisions and to work with people of different genders and cultural backgrounds. We believe that these skills can last beyond the exercise and expand students’ ability to make complex decisions that require weighing evidence, providing sound justification for ideas, understanding multiple points of view, and considering consequences. Improving students’ awareness and understanding of ethical decision-making among diverse groups is a crucial ingredient for developing stronger ethical decision makers in an increasingly diverse and complex business world.

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**THE RELATIONSHIP BETWEEN GENDER AND ETHICS**

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## ABSTRACT

*This study conceptualizes the relationship between gender and moral ideologies (i.e., idealism and relativism). Based on literature review this study expects that females will be more idealistic and less relativistic than males. These expectations could imply that females are more sensitive to ethical problems in marketing than males. The theoretical precepts presented in this paper could be used to develop better marketing strategies, policy formation, job assignments, and internal training.*

***Key Words:*** *Ethics, Gender, Idealism, Moral Ideologies, Relativism.*

## 1. INTRODUCTION

This study conceptualizes the relationship between gender and moral ideologies. The study suggests that significant differences exist between females and males in personal moral philosophies based on past literature review. A variety of research has examined the ethical orientations of men and women. Some of the research has found that females are more ethically sensitive (Chonko and Hunt, 1985), have higher ethical standards (Dawson, 1992), possess a higher level of cognitive moral development (Goolsby and Hunt, 1992), and are more sensitive to and less tolerant of unethical activities (Ameen et al., 1996). One study found women to be more ethical than men on certain practices (Fritzsche, 1988). Hasty, Bellizzi, and Diaz (1997) used a sample of 259 white and Hispanic respondents to analyze the ethical perceptions of 14 questionable practices. Results indicate that women found the 14 questionable practices more unethical than did men. A few studies, however, have found no significant differences between females and males (e.g., Swaidan, Vitell, and Rawwas, 2003).

As discussed above, results of past research are somewhat inconsistent. Although most research has found that females are more ethical than males, some research indicates that males reject questionable activities more than females. Some researchers did not find significant difference between females and males in terms of rejecting questionable activities. In Crittenden, Crittenden and Hawes's (1986) study of marketing students, no relationship found between gender and ethical standards. Consequently, since past research concerning gender has been inconsistent, this study lays the theoretical background to more clearly examine the relationship between gender and moral ideologies.

Another problematic area of past research is the level of analysis. Many studies have investigated moral values in the marketplace by focusing primarily on the firm perspective and not the consumer perceptions. Bagozzi (1995) has emphasized that moral behavior is an aspect of relationship marketing that is in need of more attention. Past research emphasized that what we know about the consumers' moral ideologies is still very limited (Vitell, Singhapakdi, and Thomas, 2001). In short, relatively few studies have examined consumer personal moral philosophies in the marketplace; yet consumers are the most important component of the business process. Ignoring consumer ethics in research may result in the development of faulty marketing strategies since all aspects of marketing strategy (product, price, promotion, and place) are developed to satisfy consumers' needs and wants. To help correct this problem, this research is focused on consumer moral ideologies.

The focus of this study is to conceptualize the relationship between gender and moral ideologies. Two hypotheses are suggested where gender is the independent variable and moral ideologies (idealism and relativism) are the dependent variables. ANOVA could be used to test the relationship between the independent and dependent variables after collecting the necessary data.

## 2. LITERATURE REVIEW AND HYPOTHESES

Forsyth (1992) identified two distinct dimensions of moral philosophy: idealism and relativism. Moral idealism refers to the degree to which a person focuses on the inherent rightness or wrongness of an action regardless of the consequences of that action. In making moral judgments, moral idealists use idealistic rather than practical criteria. Moral idealists take the position that harming others is universally bad and should be avoided. Moral relativism is the degree to which an individual rejects universal moral rules when making ethical judgments. Relativism suggests that moral rules cannot be derived from universal principles, but exist as a function of time, place and culture. Thus, no set of rules can be formulated to determine what is right and what is wrong for all people. Moral relativists do not accept universal moral rules in making moral judgments; instead, they heavily rely on the situational circumstances. They feel that what is moral depends on the nature of the situation, the prevailing culture and the individuals involved.

Many researchers have established that moral philosophy is important in evaluating ethical discrepancies between individuals. Al-Khatib, Dobie and Vitell (1995) concluded that moral ideology influences an individual's perceptions of the "rightness" or "wrongness" of the action in question. Rawwas (1996) confirmed that ethical ideology is a significant determinant of ethical beliefs. Vitell and Singhapakdi (1993) found that moral philosophies partially explain ethical judgments and deontological norms. Singhapakdi et al. (1995) demonstrated that marketers' perceptions regarding ethics and social responsibility could be explained by ethical ideology. Vitell, Lumpkin, and Rawwas (1991) substantiated that ethical ideology is a significant overall determinant of consumers' ethical beliefs. Dubinsky, Nataraajan, and Huang (2004) proved that moral philosophy influences retail salespeople's ethical beliefs.

Many empirical studies have suggested that idealism is associated with greater ethicality and relativism is associated with lower ethicality. Erffmeyer, Keillor, and LeClair (1999) showed that idealistic Japanese consumers were the least likely to engage in questionable consumer activities. Similarly, Rawwas, Patzer, and Klassen (1995) revealed that Hong Kong consumers who scored higher on idealism were inclined to view all types of questionable actions as less moral than Northern Irish consumers who scored lower on the same scale. In another study, Singhapakdi et al. (1999) demonstrated that Malaysian consumers who scored low on idealism and high on relativism were less sensitive to unethical marketing practices. Singhapakdi et al. (1995) confirmed that idealism positively influences marketers' perceptions regarding the importance of ethics and social responsibility, whereas relativism negatively influences marketers' perceptions regarding the importance of ethics and social responsibility.

Ford and Richardson (1994) declared that gender was researched in more empirical studies than any other individual factor. Vitell (2003) concluded that gender was linked by more than one study to ethical beliefs, but still it needs further studying. Rawwas (1996), using an Austrian sample, proved that females were more likely to find questionable activities unethical. Beltramini, Peterson, and Kozmetsky (1984) established that female students were more concerned with ethical issues than male students. Kelley, Ferrell, and Skinner (1990) reported that female researchers rated their behavior as more ethical than their male counterparts. Singhapakdi (2004) proved that male American students tend to be less ethical in their intentions than female students. Chonko and Hunt (1985) confirmed that female managers noticed more ethical problems than males did. Ferrell and Skinner (1988) substantiated that female marketing researchers exhibited higher levels of ethical behavior. Jones and Gautschi (1988) reported that females were less likely to be loyal to their company in an ethically questionable environment. Ruegger and King (1992) ascertained that female business students tend to be more ethical than male business students in their evaluation of different hypothetical business situations. Malinowski and Berger (1996) said that females responded more ethically than males. Loe and Weeks (2000) revealed that females had higher levels of moral reasoning than their male counterparts. Whipple and Swords (1992) provided evidence that females were more critical of ethical issues than their male counterparts. Ang et al. (2001) demonstrated that males were more likely to have favorable attitudes towards piracy. Vitell, Lumpkin, and Rawwas (1991) validated that female "senior citizen" consumers were generally more ethical than their male counterparts. Franke et al. (1997) after meta analyzing data from more than 20,000 respondents in 66 samples concluded that women are more likely than men to perceive business practices as unethical.

Therefore, this paper predicts that females will be more idealistic and less relativistic than males. Specifically,

H1: Female consumers will be more idealistic than male consumers.
H2: Female consumers will be less relativistic than male consumers.

## 3. SUGGESTED METHODOLOGY: MEASUREMENT OF CONSTRUCTS

A one-page (front and back) survey will be administered to respondents. The instrument consists of two parts. The first section measures the moral philosophy (idealism vs. relativism) of the respondents using the Ethical Position Questionnaire (EPQ). The second part of the survey measures the demographics of the participants.

Forsyth (1992) developed the EPQ which consists of two scales, each containing 10 items. The first scale measures idealism and the second measures relativism. These scales have been shown to be both reliable and valid in several studies (e.g., Erffmeyer, Keillor, and LeClair, 1999). An example of an item that captures moral idealism is “A person should make certain that their actions never intentionally harm another even to a small degree.” Responses to idealism statements are coded so that a high score denotes high idealism and low score indicates low idealism. Moral relativism refers to the degree to which individuals believe that moral rules are not derived from universal principles but exist as a function of time, culture and place. An example of a moral relativism item is: “There are no ethical principles that are so important that they should be a part of any code of ethics.” Responses to relativism statements were coded so that a high score signifies high relativism and a low score indicates low relativism. A five-point Likert scale with descriptive anchors ranging from "strongly agree" (coded 1), to "strongly disagree" (coded 5) was used. Past Cronbach alpha coefficients and factor analysis for the idealism and relativism scales suggest that these two scales are internally consistent.

Idealism and relativism scales (EPQ) were used by many researchers to explore the relationship between personal moral philosophies and many other variables. Rawwas, Swaidan and Oyman (2005) used the Ethical Position Questionnaire (EPQ) to compare the ethical beliefs of American and Turkish consumers. A sample of 376 subjects that consists of American (n = 188) and Turkish consumers (n = 199) was used to distinguish the ethical beliefs and practices of the two samples. Swaidan, Rawwas, and Al-Khatib (2004) utilized the EPQ to explore the ethical ideologies and ethical beliefs of African-American students. Their findings suggest that consumers who score higher on the idealism scale and lower on the relativism scale were more likely to reject questionable activities. On average, females expressed more willingness to reject questionable activities than males. Swaidan, Vitell and Rawwas (2003) used EPQ to explore the ethical ideologies and ethical beliefs of African-American consumers. Results confirmed that consumers who score high on the idealism scale are more likely to reject questionable activities. Finally, Rawwas (2001) used the EPQ to compare the ethical beliefs (ethical judgments) of consumers from eight countries (i.e., United States, Ireland, Austria, Egypt, Lebanon, Hong Kong, Indonesia, and Australia).

## 4. CONCLUSION

This research conceptualizes the relationship between gender and moral ideologies. Gender is the independent variable and moral ideologies are the dependent variables. This study theorizes that female consumers will be more idealistic and less relativistic than male consumers. These hypotheses are important for marketing managers. Marketing managers could use these hypotheses to develop better strategies to handle their consumers (males versus females), for recruitment, job assignments, and job training. It seems that females could handle jobs that require ethical sensitivity more than men. It looks like men need more training on ethical issues than females. Also, it seems that female consumers will be more sensitive to ethical problems than their male counterparts.

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# IMPACT OF CULTURAL BARRIERS ON KM IMPLEMENTATION: THE CASE OF THAILAND

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## ABSTRACT

*Today, knowledge management (KM) is widely regarded as an imperative tool to maintain and enhance a company's core competencies. Although many companies had begun initiating KM program, little emphasis has been put to address the cultural barriers that may hinder the effectiveness of the program. Existing scholarly and professional works have pointed out that cultural barriers are among the major obstacles to the successful implementation of any KM program. The purpose of this research is to identify and examine the type of cultural barriers that affect the implementation of KM program in Thailand.*

***Keywords**: Knowledge Management; KM Implementation; Cultural Barriers; Thailand*

## 1. INTRODUCTION

Today knowledge management (KM) is widely regarded as an imperative tool to maintain and enhance a company's distinctive core competencies. Disappearing boundaries, globalizing competition and rapid changing technology and business life – all these factors lead the economy to a knowledge-based direction. Keskin (2005) stated that, "…firms have become much more interested in stimulating knowledge, which is considered as the greatest asset for their decision making and strategy formulation". In this sense, knowledge is a key resource bestowing a competitive advantage for entrepreneurial firms. In the new economy, effective knowledge management is vital because the achievement of a sustained competitive advantage depends on firm's capacity to develop and deploy its knowledge-based resources (Perez & Pablos, 2003).

In recent years, many Thai companies started implementing KM program in recognition that knowledge possessed by an organization's employees is a highly valued, intangible and strategic asset (DeTienne et al, 2004). While these companies already initiated the program, little emphasis has been put to address the cultural barrier that hinder the effectiveness of the program. Many scholars and professionals agree that cultural barrier is one of the major obstacles that KM managers must encounter and resolve in order to successfully execute the program. KM implementation requires changes in an organization's culture especially employees' involvement and participation; hence human issues must be considered a key factor (Moffett, McAdam & Parkinson, 2003). One of the core necessities for knowledge creation, transfer, and sharing is that employees contribute their knowledge or expertise to the company (DeTienne et al, 2004).

The purpose of this paper is to clarify the prevailing values and beliefs within an organization's culture that challenge KM initiatives in Thailand. This paper focuses on three key elements that many scholars and practitioners found to be essential components to effective KM initiatives, namely, collaborative involvement, trust, and incentives.

## 2. CONCEPTS OF KNOWLEDGE AND KM

Knowledge is an organized combination of data, assimilated with a set of rules, procedures, and operations learnt through experience and practice (Keskin, 2005). There are two critical dimensions to understanding knowledge in a practical, organizational context. First, knowledge exists at individual, group, and organizational levels. Second, knowledge is either explicit or tacit (De Long & Fahey, 2000). Explicit knowledge is the type of knowledge that can be easily documented and shaped. It can be created, written down, transferred, or transmitted among organizational units verbally or through computer programs, patents, diagrams and information technologies (Choi & Lee, 2003; Perez & Pablos, 2003). Firms using explicit oriented KM strategy can achieve scale economies and organizational efficiency through reusing codified knowledge. Tacit knowledge is what we know but cannot explain (De Long & Fahey, 2000). This form of knowledge: 1) is embodied in mental processes; 2) has its origins from practices and experiences; 3) is expressed through ability applications; and 4) is transferred in the form of learning by doing and learning by watching (Choi & Lee, 2003). Firms that focus on tacit knowledge (which is hard to imitate, creates competitive advantage, plays a key part in innovation process and leads to individual creativeness) can develop core processes, obtain new understandings, combine their ability and experiences, and rapidly answer the new ideas, so that they can reap great advantages especially in dynamic environments (Nonaka & Takeuchi, 1995).

KM can be identified as systematic and organized approaches that ultimately lead organizations to create new knowledge, which can manipulate both tacit and explicit knowledge and use their advantages. The introduction of KM comes from the need to capture, catalogue, and preserve the knowledge that is part of organizational memory, and typically resides within the organization in an unstructured way. The objective of knowledge management is to support the creation, transfer, and application of knowledge in organizations and to convert tacit knowledge into explicit knowledge and transform individual knowledge into organizational knowledge (Wang, 2004).

KM is the study of strategy, process, and technology to acquire, select, organize, share, and leverage business-critical information and expertise so as to improve company productivity and decision quality. Knowledge management embodies synergistic integration of information processing capacity and the creative capacity of human beings in order to maximize the responsiveness and flexibility of organizations. A successful organization must be able to manage various types of knowledge and maximize its strategic value. Toward this end, there is an indisputable need to enable managers to promote knowledge sharing and facilitate the acquisition and retention of intellectual capital.

Best practices in knowledge sharing have been gaining increased attention amongst researchers and business managers in recent years. This is because the commercial success and competitive advantage of companies seem to lay increasingly in the application of knowledge and location of those parts of the organization where knowledge sharing practices and location of those parts of the organization where knowledge sharing practices can assist in optimizing business goals. Knowledge sharing practices and initiatives often form a key component of KM programs in terms of organizational and individual learning. The principal equation is: better and purposeful sharing of useful knowledge translate into accelerated individual and organizational learning and innovation through the development of better products that are brought faster to a target market, thus enhancing market performance (Reige, 2005).

Chen’s (2006) study showed that KM enhances an organization’s effectiveness. The study was conducted to see whether there is a relationship between knowledge sharing and the organization's marketing effectiveness. The study proposed that knowledge-sharing activities are prerequisites to enhancing organizational marketing effectiveness, both within the organization and between organizations. The findings show that: (1) knowledge sharing, except external organization knowledge sharing with strategic alliance organizations, is positively related to the organizational marketing effectiveness in the strategic alliance setting, and (2) the external organization’s marketing effectiveness is mostly affected by knowledge sharing in the strategic alliance setting.

Keskin (2005) conducted a study to identify the relationships between explicit and tacit oriented KM strategy, and firm performance. In this study, the relationship between tacit oriented KM strategy, explicit oriented KM strategy and firm performance were tested on SMEs in a developing country, Turkey. The study indicated that there is a significant relationship between firm performance and KM strategies when environmental turbulence and intensity of market competition are greater. This means that implementing KM strategies effectively leads SMEs to launch superior products, improve their product and processes continuously and meet customer demands in a shorter time; as a result, firms are better prepared to face environmental hostilities. KM is also an important element of firm success - formulating an effective KM strategy can lead firms to great profits.

## 3. CULTURAL BARRIERS

Organizational culture refers to the shared values, beliefs and practices of people in an organization. Culture is reflected in the visible aspects of the organization, like its mission and espoused values. But culture exists on a deeper level as well, embedded in the way people act, what they expect of each other and how they make sense of each other's actions. Finally, culture is rooted in the organization's core values and assumptions. Often these are not only unarticulated, but so taken for granted that they are hard to articulate and invisible to organizational members (McDermott & O'Dell, 2001).

According to Delong and Fahey (2000), culture influences knowledge-related behaviors in 4 ways. First, culture, and particularly subcultures, heavily influences what is perceived as useful, important, or valid knowledge in an organization. Culture shapes what a group defines as relevant knowledge, and this will directly affect the type of knowledge a unit focuses on. Subcultures consist of distinct sets of values, norms, and practices exhibited by specific groups or units in an organization. Subcultures have characteristics that distinguish them from the firm's overall culture, as well as from other subcultures. Second, culture is that it mediates the relationship between levels of knowledge. It dictates what knowledge belongs to the organization and what knowledge remains in control of individuals or subunits. Third, culture creates a context for social interaction. It represents the rules and practices that determine the environment within which people communicate. These cultural ground rules shape how people interact and have a major impact on knowledge creation, sharing, and use. Finally, culture shapes creation and adoption of new knowledge. Knowledge ultimately assumes value when it affects decision-making and is translated into action. New knowledge is either adopted wholesale from external sources, often in the form of structured knowledge, such as a new software-driven manufacturing process, or is created internally by taking information from the external environment and interpreting it in the context of the firm's existing knowledge to create new knowledge that becomes a basis for action.

The identification and recognition of knowledge sharing barriers, whether or not these are a natural part of an organization’s culture, plays an important role in the success of a KM strategy. Knowledge sharing practices often seem to fail because companies attempt to adjust their organizational culture to fit their KM programs, instead of implementing these programs to fit their culture (Riege, 2005). Besides the accounting and financial perspectives of KM, there is a need for greater recognition of other perspectives (e.g. sociological and psychological). The assessment of salient social and behavioral issues that underlie knowledge management (e.g. influence, persuasion, self-determination, commitment and motivation) and performance outcomes is therefore a necessity.

KM is not a new concept. Forward thinking companies have been implementing KM strategies for years but most companies implementing KM rely on their IT tools alone and then wonder why their program fails to deliver the required value. One of the key drivers to a successful KM strategy is ensuring that an organization embeds a rich cultural environment into the organization’s vision and mission. However, it is not as simple as it first appears and an organization needs to identify and overcome the barriers to form a knowledge-driven culture (Kyriakidou, 2004). Many scholars and practitioners agree that there are three essential components to effective KM initiatives, namely, collaborative involvement, trust, and incentives.

The existence of a strong co-operative and collaborative culture is an important prerequisite for knowledge transfer between individuals and groups. As noted by Sveiby and Simons (2002), this collaborative climate is one of the major factors influencing the effectiveness of knowledge programs. Studies have shown that in general, a collaborative environment improves knowledge sharing and organizational effectiveness. On the other hand, if the collaborative climate is poor, the bandwidth narrows, the infrastructure deteriorates and knowledge sharing does not take place, thereby restricting the organization’s capacity for creating value.

Low-trust cultures constrict knowledge flow. Developing a high level of trust is a prerequisite for developing a collaborative culture. Trust will increase the propensity of employees and teams to share relevant knowledge and information (Goh, 2002). Trust and openness are commonly cited as two of the most important explicitly stated values that promote knowledge management behaviors (DeTienne et al, 2004). Researchers agree that trust can be divided into two distinct categories: (1) trust in others, or knowledge-based trust; and (2) trust in the organization as a whole, or institution-based trust (Ardichvili et al, 2003). In order to develop knowledge-based trust in a company, KM managers must form an organization's social interaction culture. This permits an opportunity for individuals to interact and be closely familiarized with each other, and hence develop the degree of trust among co-workers. Interaction between individuals is crucial in the innovation process. Communication between individuals or groups must both be, formally and informally, encouraged as they are often a foundation of new ideas creation and thus likely to create knowledge. Social interaction should not be limited to individuals with similar organizational status. An environment where both management and employees socialize and interact frequently with each other, with little regard for their organizational status, encourage knowledge sharing (Connelly & Kelloway, 2003). The second category of trust, institution-based trust, is built upon the belief that "necessary structures are in place which will ensure trustworthy behavior of individual members, and protect the members from negative consequences of administrative and procedural mistakes" (Ardichvili et al, 2003). Research has indicated that institutional trust is best established when trust is visible, ubiquitous and top-down.

DeTienne et al (2004) noted while cooperative involvement and trust are critical elements in a culture that is conducive to knowledge sharing, a third element, incentives, must not be overlooked. Self-interest is, after all, a principle motivator for many, if not most, people's actions. And because KM is, at its roots, dependent on people's actions, corporations willing to implement KM strategies are now finding that they must also be prepared to implement new reward policies and programs in order to motivate employees to take part in knowledge management programs.

## 4. KM INITIATIVES IN THAILAND

Similar to employees in many Asian countries, Thai employees are generally very collaborative and obedient. It is uncharacteristic for employees to confront or question their superiors. However, at the individual level, knowledge sharing barriers such as lack of recognition, lack of top management commitment and lack of incentives, often demoralize the level of participation and involvement. In a work culture where a free rider, usually a team leader, is habitually a part of work practice, team members normally get discouraged rather easily and quickly. To make matters worse, it is the team leader who usually gets undeserved credit for a job well done thus leading to a non-collaborative working environment.

Top management dedication to KM practices is essential in motivating employees' participation and involvement because leaders set an example for employees to follow. As such, top management has a direct impact on an organization's culture and how employees approach KM practices. Wong and Aspinwall (2005) state that successful KM implementation, as with other change initiatives, requires proactive entrepreneurial support and leadership from top management. Top management and leaders must devote themselves to promoting a corporate mindset that emphasizes cooperation and knowledge sharing across the organization. They should also contribute to the creation of an environment in which knowledge creation and cross-boundary learning can flourish. More importantly, they must provide continual support and commitment to initiate and sustain the KM effort. KM practices must be actively and aggressively endorsed and practiced by the company's leaders; if KM does not permeate all levels of an organization, beginning at the top, it is unlikely that KM programs will ever catch on or be effective (DeTienne et al, 2004).

Unfortunately, most Thai organizations today still operate under a centralized management system where important and useful knowledge reside at the top. Lower-rank employees simply follow orders. Therefore, it can be generally assumed that the majority of employees have very little knowledge and experience on how business decisions are made, thus making it exceptionally difficult to suggest a way to improve the business. Yet strangely enough, KM implementation is primarily assigned to lower level employees. The question then arises: what sort of knowledge do these employees possess that can be useful in enhancing a firm's competitive advantage? In reality, employees simply just write down their routinely performed tasks. This can be useful for new recruits to read as an instruction manual but the real question is what contribution this knowledge has in enhancing the overall company's performance. Under such a management system, it should be top management who should share their knowledge so employees can learn more about the decision-making processes and improve their understanding of the business. This will not only help foster a productive workforce but create innovative ideas as well. But, of course, there are always issues such of general lack of time to share knowledge, trust, and the general unwillingness to share knowledge as discussed earlier. Consequently, if top managers themselves are reluctant to share their knowledge, how can they be expected to foster a knowledge sharing culture and promote collaboration within the organization?

Face saving and lack of adequate knowledge and experience prevent collaborative involvement. It is a well-known fact that most Asians, particularly older people, are uneasy about losing face. When sharing ideas in the presence of top managers, employees tend to remain silent most of the time. This is to make sure that they will not say anything silly or unconstructive that might humiliate them. For younger employees, they keep quiet because they feel that they lack knowledge and experience to suggest any ideas. Besides, younger people in the Thai culture are supposed to play the role of an observer role rather than a speaker.

Trust and openness are other hindrance factors that discourage effectual knowledge sharing activity in Thailand. The fear that essential knowledge might be illegally or inappropriately used or stolen often tempted knowledge sharers to deliberately exclude valuable knowledge to be shared. Although it is imperative that crucial knowledge is protected, the security issue is a totally different matter. It is therefore up to KM managers to encourage social interaction to enhance the degree of trust and willingness to share knowledge. The benefits of a positive social interaction culture, with respect to knowledge sharing, include employees who are more knowledgeable about their colleagues' potential for being knowledge sources, as well as employees who trust more colleagues, and who trust them more completely, and who are willing to share knowledge with them as a result. This statement is true everywhere, particularly in Thailand where not all knowledge and information are equally distributed among all employees. Conceivably, the only person or groups of people who have access to important knowledge and information are those at the top or closely linked to top management, or so-called “favorites”. This type of nepotistic practice generates lack of trust and dissuades employees from participating in knowledge sharing or “give it their alls.” For example, an employee might ask: if my boss does not trust me why should I help him improve his company? As Beckman (1999) explained, management's responsibilities in the KM process include motivating employees, providing equal opportunities and development, and measuring and rewarding the performance, behaviors, and attitudes that are required for effective KM.

Internal competition affects trust/openness and the level of knowledge shared. One reason for employee resistance to knowledge sharing is that many people view their expertise as an intangible asset they are unwilling to part with. In other words, many people still hold on to the age-old belief that “knowledge is power” and view their knowledge or expertise as critical to their value as employees in the organization (Davenport & Prusak, 1998). People view knowledge as a way of securing their job, therefore they are reluctant to share it (De Long & Fahey, 2000). As a Chinese philosopher once said, “A good mastery of a single skill ensures a lifetime employment" and, "an outstanding apprentice will leave the master starving (without a job).” Today’s increasingly competitive business environment forces people to look after their own self-interest. As long as an employee holds an expertise that is crucial to a business function and performance, he will most likely keep his job for a long time, not to mention a fast career advancement opportunity (Liebowitz & Chen, 2003). Thus, it is understandable why most people are unwilling to share knowledge. Besides, how can a person be certain that once he shares all of his/her knowledge everyone else would do the same without holding anything back?

Many large corporations today are made up of many business units. Each unit is no longer competing only against external competitors but internal competitors as well. Thus, it is not surprising that, even within the same organization, leaders of different units/divisions/subsidiaries cannot see eye-to-eye and distrust each other. When it comes to sharing knowledge with the rest of the organization, many managers often hoard or exclude essential knowledge to protect his/her own division’s competitive edge. Employees are instructed to deliberately leave out some information so that whoever gets their hand on the information will not get the “whole picture”. According to Goh (2002), in a big organization there is a tendency for individuals to use knowledge as their source of power for personal advantage rather than as an organizational resource. Many managers still see critical knowledge as a source of power, as leverage, or as a guarantee of continued employment, and are therefore reluctant to share it.

KM is often perceived as extra work by participants. Participants are usually involuntarily selected and hence they tend to curtail their level of involvement. Often participants will nag and complain. Perhaps this is because there is no reward or incentive system for participation. Consequently, it always ends up being a "why me, why not you" syndrome. For this reason, there is a need for an adequate incentive system to motivate employee participation and involvement. In Thailand, there is generally little or no incentive for performing extra work that is outside an individual's job description. All employees are expected to follow the boss' orders regardless of whether they like it or not. Because of this mentality, a reward system is always overlooked and often considered unnecessary. Consequently, employees are discouraged to participate in corporate initiatives (like KM) as they do not see any benefit in doing so.

Building on the above findings, in a similar kind of culture, Voelpel and Han's (2005) study on knowledge sharing in China also reveals a similar result. Their findings suggest that the impact of non-monetary incentives needs to be better appreciated, especially in times of economic downturn. They imply that "career involvement" and "symbolic incentives" are amongst the most important and effective means for leveraging employee willingness to share knowledge, even if these aspects have often been neglected in the past. Additionally, top management support as well as appropriate recognition by superiors and senior management of the importance of knowledge sharing will further contribute to the practicability of these two means. Moreover, cultural aspects, such as collectivism and "ingroup thinking", can contribute to the willingness to share knowledge. At the same time, cultural aspects such as face-saving and individualism can also hinder employee knowledge-sharing behavior. Understanding influential cultural factors and the proper handling of these factors will therefore influence the success of knowledge management within a specific cultural context.

Syed-Ikhsan and Rowland's (2004) study on KM initiatives in Malaysia supported the notion that cultural barriers play an important role in interfering with the knowledge sharing process. They concluded that although technology platforms play an important role in developing and sharing knowledge, without the attention to the cultural and organizational context in which people are encouraged to share their knowledge, technology may not be able to stimulate the flow of knowledge. Therefore, all transitional elements - organizational culture, structure, technology, and people/ human resources - should always be considered together.

## 5. CONCLUSION

In the business world, KM is considered as the process of creating value from the intangible assets of an enterprise. It deals with how best to leverage knowledge internally in the enterprise and externally to the customers and stakeholders. Knowledge is considered as a valuable asset of an enterprise, which has to be managed. The essence of KM is to provide strategies to get the right knowledge to the right people at the right time and in the right format (Ergazakis et al, 2004).

The foundation of organizational competitiveness in the contemporary economy has shifted from physical and tangible resources to knowledge. The key focus of information systems has also changed from the management of information to that of knowledge management. Businesses that can efficiently capture the knowledge embedded in their organizations and deploy it into their operations, productions and services will have an edge over their competitors. Many organizations are increasingly viewed as knowledge-based enterprises in which formal knowledge management is essential. Nowadays, KM is rapidly becoming an integral business activity for organizations as they realize that competitiveness revolves around the effective management of knowledge (Grover & Davenport, 2001).

Despite organizations' attempts to launch KM program, many of them fail to instigate KM successfully. One major reason for such failure is the lack of attention paid to cultural barriers, particularly the human dimension. Knowledge transfer requires the willingness of a group or individual to work with others and share knowledge to their mutual benefit. Without sharing, it is almost impossible for knowledge to be transferred to other person. This shows that knowledge transfer will not occur in an organization unless its employees and work groups display a high level of cooperative behavior (Goh, 2002). There is consensus among scholars and practitioners that a knowledge-sharing supportive organizational culture must be present or nurtured in organizations for KM initiatives to succeed (Park et al, 2004).

In recent years, a number of Thai organizations that have attempted to undertake KM have done so in a rather haphazard or ad hoc manner. Although these organizations realized the importance of KM, they do not understand how to establish a successful knowledge sharing environment as they usually do not consider the individual factors that are important to KM implementation. KM managers should take into consideration cultural issues when implementing KM program. Since the key success factor to successful KM embodies the involvement and participation of people, it should be given the highest priority. People, or employees, in an organization usually conform to the culture of that organization. Any change in the organization's culture would place demands on employees to change their mindset and break with past traditions. Thus, within the field of organizational change resulting from KM, human issues must be considered a key factor (Moffett et al, 2003).

KM managers should concentrate on building the right cultural norms and promoting knowledge sharing culture. They should focus on encouraging managerial involvement, creating organizational collaboration and a trusting culture, and developing incentive programs to reward participants.

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References will be furnished upon request!

# SOCIAL SECURITY PRIVATIZATION ISN'T SO BAD

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## ABSTRACT

*The Social Security trust fund is expected to have no money in it by the year 2042, and perhaps even earlier. Why? Because the promised benefits are greater than can be met with the assets and income of the trust. So, a solution has to be arrived at or a drastic cut in benefits will occur. Some suggestions to eliminate the deficit have been to reduce benefits, increase eligibility requirements, and increase payroll taxes. A more controversial suggestion is to turn Social Security into a personal defined contribution plan, similar to a 401 (K). This is what is known as privatization. This paper looks into the advantages and disadvantages of this proposal. Regardless of whether privatization occurs, something has got to be done because Social Security, as we know it, is broken for good.*

**Keywords:** Social Security; Personal Finance; Retirement Planning.

## I. INTRODUCTION

The debate over Social Security's future has been a topic of discussion over the years. Americans want to know what's in store for social security in the future, such as will it still be around for people of my generation. Currently, social security is not looking so good for future retirees. One of the many solutions to the social security problem is privatization. Privatization will allow workers to have money put away in a private account that will accumulate interest from investing in securities. Though plenty of people are against privatization, there are benefits to privatizing social security.

"The most important arguments for Social Security privatization are moral, not economic…A privatized Social Security System gives individuals more freedom to run their lives, is fairer, provides more security, and creates less antagonism between generations, fostering a greater sense of community" (Shapiro, 1998). It makes sense for a worker to want privatization because they have a little more control of how much they invest in their private account. The investment into a private account gives a higher chance of increasing their investment. People take great pride in knowing they have control over their finances. People tend to be more careful over their finances because they know that they are accountable for their future. For example, a person who cares about the future of their well-being will invest more time and money into their private accounts because they want their future outcome to be good. They want to have secure financial stability in their retirement years.

Retirement is one of the most important decisions a person has to make in their life. "Retirement decisions depend upon one's occupation, one's trade-off between work and leisure, one's time preference, the extent to which concern for the future guides one's present plans and goals, and so forth…and all of these are intimately involved with one's self-definition, one's ambitions, and one's goals." (Shapiro, 1998). It means that a person's end result of retirement savings depends on the sacrifices they make in their life as well as opportunities offered to them. These decisions greatly affect whether or not a person will have a financially secure retirement.

## II. PAY-AS-YOU-GO vs. PRIVATIZATION

To understand the effects of the current Pay-as-you-go system, you would have to compare the intergenerational and intragenerational effects. Intergenerational is relationships between generations and intragenerational is relationships among members of the same generation. Intergenerational effects reflect how workers from the older generations had better benefits than today's workers. When social security started, payroll taxes were low and the rate of return on taxes was higher than the market. This provided better benefits than what is being offered today. What made the benefits better back then was the higher worker to retiree ratio because of population growth. Also, the life expectancy was shorter for retirees. Today there is medicine to help people expand their lifespan along with diet and exercise.

These days the pay-as-you-go system is going downhill because the opposite is happening. Payroll taxes are higher and the lack of population growth to help stimulate the economy. With the reduced population growth, the worker to retiree ratio has gone down. It started out as 16:1, but eventually it will reach 2:1. If social security were to go towards privatization, then workers are responsible for themselves. They don't have to worry about if they'll get full benefits like they should. Basically, it would be every man for him.

The intragenerational effect is the difference amongst classes. The workers with lower income get more of their taxes taken out than workers with higher income. Also, higher income workers tend to enter the workforce later, so they contribute less to the system. Not only that, the higher income workers live longer during retirement and receive all the benefits since the lower income workers tend to die before age 65. (Shapiro, 1998). It is better for the lower class workers to get private accounts because there isn't a division amongst the classes. It is true that the higher class can contribute more to their accounts, but in the end it doesn't really matter because the market gives a higher return than the pay-as-you-go system. Workers would just be better off taking the risk of the market. It just isn't fair for the low income workers to have all their hard earned money taken away so that the high income workers can live luxuriously in their retirement years.

The children of today are going to be the ones to pay for the social security problem. If something is not done about social security soon, nearly one-fifth of workers income (today's children will be the workers) will go to paying for the retirement of baby boomers. On top of paying the taxes for workers income, they will have to pay hundreds of billions of dollars for income taxes just to help social security.

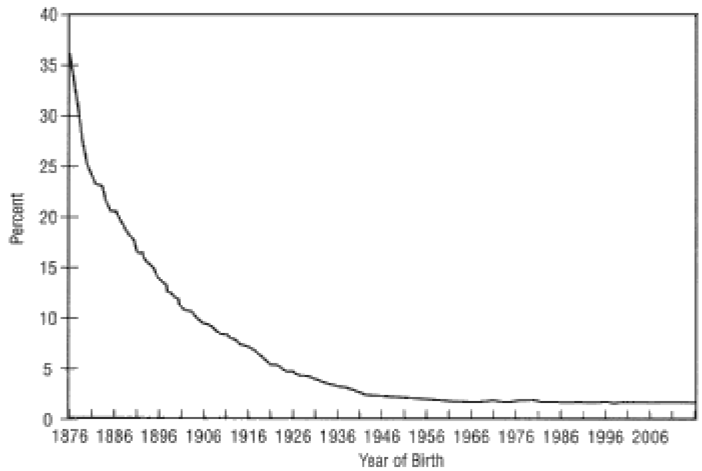
If social security were to privatize, then the young generation could be part of a defined contribution system, "…thus tightening the link between contributions and benefits and thereby improving work incentives". (Shapiro, 1998) Social security is expected to be fine until 2030, but that is only a prediction. Nobody knows what will happen in the future. Social security may dissolve before 2030 or it may not. Surpluses are expected to happen until 2018 and then social security will have to rely on government bonds. Since surpluses are to be invested in treasury bonds, a security of the U.S. government, any money contributed is available for spending. The bonds purchased are "…mixed with general revenue and then spent on the government's annual general operating expenses". (Tanner, 2005) The interest from the bonds is paid out in bonds. When the government has to pay back the bonds, they use the money from general revenue to pay it back. It is believed that social security is a safe system when in reality it is not.

Social security should be used for exactly what it's meant to be used for. The government should not spend it for anything they like. Retired people expect to get back the money they put into the system in the form of benefits. They don't want to be told that the funds in the social security system are almost gone because of excessive spending. It's better to privatize because "…the need to reduce benefits or increase contributions will drive the net return to social security even lower, possibly even negative. Simply put, the existing public PAYGO pension system is a bad deal for both current and future workers". (Altig and Gokhale, 1997).

The following is a graph of how real interest rates are taking a rapid decline.

**REAL INTERNAL RATES OF RETURN FOR OASDI**

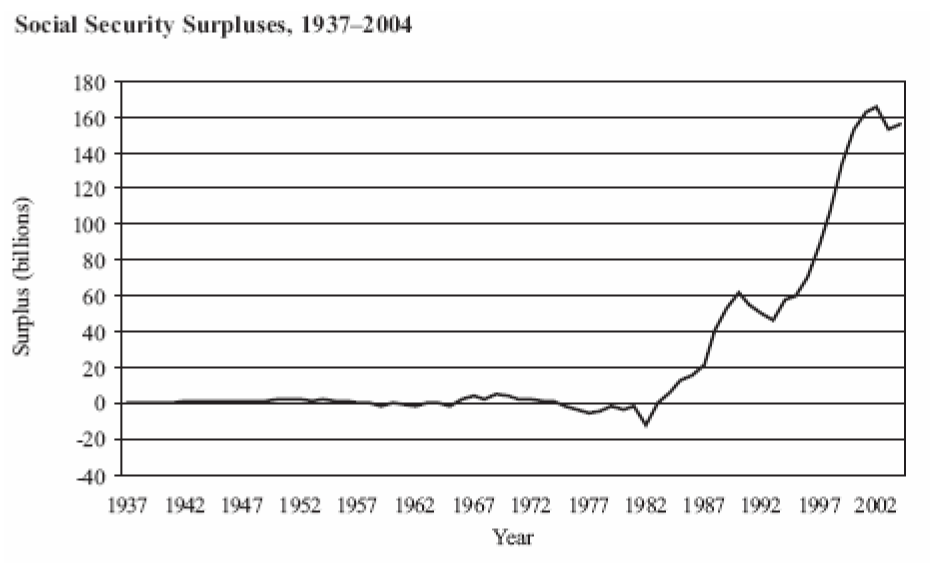
**Source: (**Altig and Gokhale, 1997)




The following is a graph of the social security surpluses from 1937 – 2004 (Tanner, 2005).

**SOCIAL SECURITY SURPLUSES, 1937-2004**

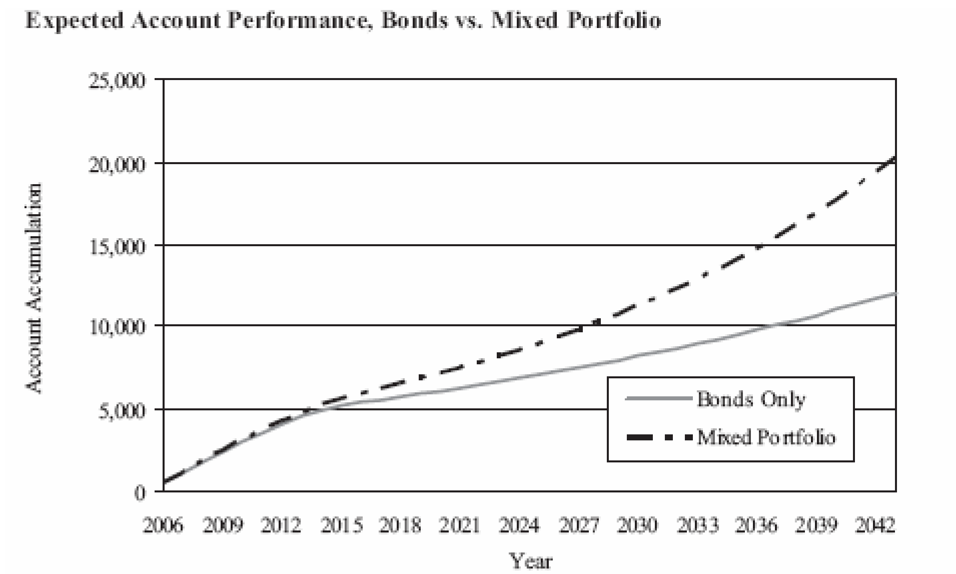
**Source:** (Tanner, 2005)




The pay-as-you-go system does not guarantee workers their benefits. Since the benefits are not guaranteed, then they can be taken away at any time. There isn't a safety net to keep you safe. People like to feel that they're safe and taken care of. If workers feel that they're not receiving the security they deserve, they'll go elsewhere. Since the pay-as-you-go system is the only social security system in the U.S., people don't really have a choice. When another idea for a social security system comes along, such as privatization, people will most likely view it as an escape. Privatization looks especially appealing when the current social security system is not working so well. The benefits are not inheritable. It means that if a retiree were to die, then he/she cannot pass their benefits to a spouse or child. People feel that they worked hard and should be able to do whatever they please with their benefits. As stated earlier, the current system provides returns less than what the market offers. It doesn't make any sense to contribute money to a system that doesn't guarantee anything. The market doesn't guarantee anything either, but at least there's a chance of getting a good return.

The following is a graph comparing expected account performance for bonds and mixed portfolios. (Tanner, 2005)

**EXPECTED ACCOUNT PERFORMANCE, BONDS vs. MIXED PORTFOLIO**
**Source:** (Tanner, 2005)




As you can see, if one were to invest in a mixed portfolio, then there would be a greater return.

The U.S. should look to other countries, such as Chile, that have privatized. Chile replaced their old pay-as-you- go system with privatization in 1981. The private accounts have yielded a 10.9 percent rate of return. In order to keep the current social security system in place, "…the United States will have to raise taxes, cut benefits, increase the retirement age or dip into other federal money to meet future obligations".(Strope, 2001)

## III. CONCLUSION

Privatization increases the chance of poor people having a better standard of living. If the retiree should die early, the money not spent can be passed on to their beneficiary (next of kin).

Workers under a certain age will contribute part of their social security tax to a privately owned account, while "the remainder of the payroll tax would continue to be paid into the current system to finance benefits to current beneficiaries and those above the cutoff age". (Altig and Gokhale, 1997)

The plan to privatize includes current and future workers. Those who are above the cutoff age will remain in the old system. It's a process that will take time. It should gradually shift to privatization. There should be a deadline to have all of social security privatized. For example, privatization could be fully functional after the last of the baby boomers has retired.

Privatization is just another way for American workers to save for retirement. It's not the worst idea in the world. It's just going to take a lot of time and money to change our current social security system to privatization. It's a matter of who will get together to implement privatization. Is privatization what America wants? Perhaps social security should be split between the current pay-as-you-go system and privatization. If one system goes wrong, then perhaps the other will do well.

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# CREDIT UNION PORTFOLIO MANAGEMENT: GOAL PROGRAMMING WITH PENALTY FUNCTION

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## ABSTRACT

*This paper proposes a goal programming (GP) technique with penalty function for credit union portfolio management problems. In this study, penalty functions are introduced in a GP formulation to set penalties according to the importance of the changes considering the marginal changes in the achievement of the target. The proposed technique can help decision-maker to obtain efficient portfolios for credit unions that have multiple and often conflicting objectives such as the maximization of return and minimization of portfolio's risk. The effectiveness and applicability of the technique is demonstrated via a case example.*

## 1. INTRODUCTION

Credit Union management typically involves several conflicting objectives such as the maximization of return, minimization of risk, expansion of deposits, and loans. The complexity of the problem resulting from multiple and conflicting objectives can be handled efficiently and effectively with a multi-objective decision making (MODM) techniques such as a lexicographic goal programming (LGP) (Romero, 1991; Sharma, Alade and Vasishta, 1999). In LGP model, a decision-maker associates a fixed target with each attribute in order to achieve the target. Then the objectives as well as the structural constraints are considered as goals by introducing under- and over-deviational variables to each of them. In this formulation, the model penalizes any deviational variable with respect to its target value according to a constant marginal penalty where the fixed target level of a goal is not achieved. However, in a real world situation the objective usually not be achieved precisely and some degree of deviations from the fixed target would satisfy the needs of decision makers. The introduction of penalty functions within LGP has removed this difficulty and allows decision-maker to use the percentage target achievement where the goal achievement can lie within a certain target interval (Kvanli, 1980). A decision maker can set penalties according to the importance of the changes considering the marginal changes in the achievement of the target. Romero (1991) demonstrated various types of penalty functions and explained if the marginal penalty increases monotonically with respect to the targets then the V- shaped penalty function turns into a U-shaped penalty function. This approach is known as goal interval programming (GIP).

Several studies have been published using LGP for financial decision-making problems (Levary and Avery, 1984; Schniederjans et al., 1992; Sharma et al., 1995; Cooper et al., 1997; Dominiak, 1997; Leung et al., 2001; Pendaraki et al., 2004 & 2005). Charnes and Collomb (1972) introduced the idea of goal interval programming. Kvanli (1980) incorporated penalty functions into GP model by analyzing a financial planning problem considering target intervals. Can and Houck (1984), Rehman and Romero (1987), Romero (1991), Ghosh et al. (1993), Sharma et al. (2003), and others have also applied GP with penalty functions. Most of the studies have focused on commercial banking and other financial institutions. Kusy and Ziemba (1986) applied a stochastic linear programming model for the Vancouver City Savings Credit Union portfolio. Walker and Chandler (1977 & 1978) used GP models for allocation of Credit Union net revenues and net monetary benefits of credit union membership. Sharma et al. (2002) applied GP modeling for best possible solutions for loan allocation problems. However, the GIP technique has not been significantly used to solve credit unions' portfolio management problems.

In this paper, we present how the system of penalties acts in a GIP to obtain an efficient portfolio that has multiples goals and constraints. In our model for credit union portfolio selection, we have used U-shaped five sided penalty functions. The GIP model allows credit union portfolio managers to allocate funds to maximize returns given the several constraints including regulatory requirements. The effectiveness and applicability of the technique is demonstrated via a case example.

## 2. GIP Model of Credit Union

The following notations are defined to formulate the model of the credit union problem:

**Indices**

*l* index for the loan type, *l* = {1, 2,…, L).

*c* index for Fed Funds, money market founds or short term securities, $c \in \{c_1, c_2, ...., c_n\} \subseteq \{1,2,....,L\}$

*h* index for Home Equity loan $h \in \{1,2,....,L\}$

*m* index for mortgage loan, $m \in \{m_1, m_2, ...., m_n\} \subseteq \{1,2,....,L\}$

*p* index for personal loan, $p \in \{p_1, p_2, ...., p_n\} \subseteq \{1,2,....,L\}$

*nm* index for new motorcycle loan, $nm \in \{1,2,....,L\}$

*um* index for used motorcycle loan, $um \in \{1,2,....,L\}$

*nv* index for new car/truck loan, $nv \in \{1,2,....,L\}$

*uv* index for used car/truck loan, $uv \in \{1,2,....,L\}$

*nb* index for new boat, $nb \in \{1,2,....,L\}$

*ub* index for used boat, $ub \in \{1,2,....,L\}$

*v* index for visa loan, $v \in \{1,2,....,L\}$

**Variables and Parameters**

$X_l$ = Amount of money invested in loan *l*,
$A_l$ = Annual rate of return from loan *l*,
$R$ = Total annual return from all loans,
$\tau$ = Total available funds available,
$C$ = Required cash for processing all loans,
$C_l$ = Percentage of loans as a cash reserve for each loan *l*.

**Goal Constraints**

The following goal constraints appear in the general model of the credit union problem to formulate the GIP model.

**(1) Available Funds:** The objective is to utilize the total available funds. In terms of percentage achievement, the goal equation appears as:

$$[100/\tau]\sum_{l=1}^{L} X_l + D_1^- - D_1^+ = 100 \qquad (1)$$

**(2) Annual Return:** The weighted average annual return on the portfolio should be at least a certain percent of total available funds. In terms of percentage achievement, the goal equation can be written as:

$$[100/R]\sum_{l=1}^{L} A_l X_l + D_2^- - D_2^+ = 100 \qquad (2)$$

**(3) Operating Cost:** The weighted average operating costs should be at least a certain percentage ($C_l$) of the portfolio. In terms of percentage achievement, the goal equation can be expressed as:

$$[100/C]\sum_{l=1}^{L} (C_l\% * X_l) + D_3^- - D_3^- = 100 \qquad (3)$$

**(4) Diversification:** The restriction and limits on different types of investments/loans and other securities are predefined by senior management. The percentage achievement is not applicable to any goal constraint where the target value is of zero. These restrictions can be defined into the following categories:

***(i) Cash/Short Term Securities****:* To ensure liquidity of funds, a percentage of amounts ( $a\%\tau(=\kappa, say)$ ) are required to be invested in short-term securities such as Fed Funds, money market funds etc. In terms of percentage achievement, the goal equation appears as:

$$[100/\kappa]\sum_{c=c_1}^{c_n} X_c + D_4^- - D_4^+ = 100 \tag{4}$$

***(ii) Home Equity Loans:*** The Home Equity Loans ($X_h$) for a year must be at least a percentage (y) of all mortgage loans ( $m = m_1, m_2, ...., m_n$ ) . The goal equation can be written as:

$$X_h + d_5^- - d_5^+ = y\ \%\ of \sum_{m=m_1}^{m_n} X_m \tag{5}$$

***(iii) Mortgage Loans:*** The mortgage ( $X_{m_q \in \{m_1, m_2, ..., m_n\}}$ ) loans must also be at least a percentage (y) of all other mortgage loans. The goal equation can be expressed as:

$$X_{m_q} + d_6^- - d_6^+ = y\ \%\ \ of \sum_{m=m_1(\neq m_q)}^{m_n} X_m \tag{6}$$

Also, total allocated mortgage loans must not exceed a percentage (y) of total loan amount. In terms of percentage achievement, the goal equation can be written as:

$$[100/(y\ \%\ of\ \tau)]\sum_{m=m_1}^{m_n} X_m + D_6^- - D_6^+ = 100 \tag{7}$$

Similarly, other adjustable rate and unimproved property restrictions for each loan type may also be considered.

***(iv) Personal Loans:*** Personal loans are usually unsecured loans with higher interest rates. In order to minimize risk, there should be a limit on those loans. The total amount of personal loans ($X_p$) for a year must be at least a certain percentage of total amounts allocated for all other loans. The goal equation can be defined as:

$$\sum_{p=p_1}^{p_n} X_P + d_7^- - d_7^+ = y\%\ of \sum_{l=1,(l\neq p)}^{L} X_l \tag{8}$$

Also, personal loan must exceed a percentage of total loan amounts. In terms of percentage achievement, the goal equation can be written as:

$$[100/(y\ \%\ of\ \tau)]\sum_{p=p_1}^{p_n} X_P + D_7^- - D_7^+ = 100 \tag{9}$$

***(v) Vehicle Loans:*** The goal constraints for vehicles loans can be written as:

*(a)* *New Vehicles*: New motorcycle ( $X_{nm}$ ) and used motorcycle ( $X_{um}$ ) loans may not exceed the new car/truck loans ($X_{nv}$). Again, used car/truck loans ($X_{uv}$) must not exceed 70% of the new motorcycle loans. Mathematically, this can be represented as:

i) $$X_{nm} + X_{um} + d_8^- - d_8^+ = X_{nv} \tag{10}$$

ii) $$X_{uv} - 0.7X_{nm} + d_9^- - d_9^+ = 0 \tag{11}$$

*(b)* *Recreational Loans*: New boat ($X_{nb}$) and used boat ($X_{ub}$) recreational vehicle loans must be at least a percentage (y) of the total loan amount. In terms of percentage achievement, the goal equation can be written as:

$$[100/(y\ \%\ of\ \tau)][X_{nb} + X_{ub}] + D_{10}^- - D_{10}^+ = 100 \tag{12}$$

***(vi) Visa Loans:*** Visa loans ($X_v$) amount for a year must be at least a percentage of total amounts allocated for all other loans. The goal equation can be defined as:

$$X_v + d_{11}^- - d_{11}^+ = y\ \%\ of \sum_{l=1,(l\neq v)}^{L} X_l \tag{13}$$

For example, after introducing penalties to equation (7), the goal equation with penalty functions can be written as:

$$Minimize \quad \sum_{r=1}^{2} \delta_r D_{6,r}^{+}$$

$$\left[100/(y\ \%\ of\ \tau)\right] \sum_{m=m_1}^{m_n} X_m + D_6^{-} - D_{6,1}^{+} - D_{6,2}^{+} = 100 \qquad (14)$$

$$D_{6,1}^{+} \le T_1 \ , \ D_{6,2}^{+} \le T_2$$

The other goal equations may be defined in similar way.

To demonstrate the use of the proposed GIP model with penalty functions, the following application of Credit Union is presented.

**CASE EXAMPLE:**

**Table 2: Penalty Scales for Three Different Loans Attributes**

| Attributes | Units | Marginal Penalties |
|---|---|---|
| Personal Loan and Recreational Vehicle Loan | Below 80%<br>80% - 90%<br>90% - 100%<br>Over 100% | ∞<br>2<br>1<br>0 |
| Mortgage Loan | Below 100%<br>100% - 110%<br>110% - 120%<br>Over 120% | 0<br>2<br>1<br>∞ |

**Table 3:Credit Union Data**

| Variable | Loan Types | Annual Rate of Return (%) |
|---|---|---|
| $X_1$ | Home Equity Loan (Fixed Rate) | 7.25 |
| $X_2$ | 30-Year Fixed Rate Mortgage | 6.50 |
| $X_3$ | 20-Year Fixed Rate Mortgage | 6.38 |
| $X_4$ | 15-Year Fixed Rate Mortgage | 6.00 |
| $X_5$ | 3-Year Adjustable Rate Mortgage | 5.38 |
| $X_6$ | 1-Year Adjustable Rate Mortgage | 3.38 |
| $X_7$ | 10-Year Unimproved Property | 7.75 |
| $X_8$ | Personal Secured Loan | 6.75 |
| $X_9$ | Personal Unsecured Loan | 6.80 |
| $X_{10}$ | Personal Computer Loan | 6.50 |
| $X_{11}$ | New Vehicles (car/truck) | 6.25 |
| $X_{12}$ | Used Vehicles (car/truck) | 7.75 |
| $X_{13}$ | New Boat | 8.25 |
| $X_{14}$ | Used Boat | 8.75 |
| $X_{15}$ | New Recreational Vehicle | 7.75 |
| $X_{16}$ | Used Recreational Vehicle | 8.25 |
| $X_{17}$ | New Motorcycle | 8.25 |
| $X_{18}$ | Used Motorcycle | 8.75 |
| $X_{19}$ | Visa loan | 8.75 |
| $X_{20}$ | Cash/money Market Funds | 3.05 |

This section considers an application of the GIP model to the portfolio problem of a credit union. We have used the estimated data of a credit union that has $300 million available fund for a given planning year. The objective of decision-maker is to construct a diversified portfolio that provides the maximum total annual return by allocating the funds among twenty different types of loans and investments. Table 2 contains the data for the penalty scales for different loans and investments. Table 3 contains the rates of interest on various loans and investment choices.

The decision maker's priorities with different goals are defined as follows:

$P_1$ : Utilizes available funds for investment, maximizing annual return and satisfies home equity loans.

$P_2$ : Satisfies new and used motor cycle loans, cash and money market funds, visa loan, new and used boat loan, and minimize the portfolio's risk.

$P_3$ : Satisfies mortgage and personal loans.

**RESULTS**

A computer code based on Ignizio's (1976) algorithm has been used to run the GIP model. The results are summarized in the Table 4. A sensitivity analysis on total available amount has been performed to identify the best allocation of loans and investments. The goal achievement in all priorities has been fulfilled. The results show that the attainment of minimum budget requirement reflects in Run-2. Here, the allocation of amounts to different types of loans will satisfy the primary purpose of management for the planning year. With this allocation, all the priorities have been achieved. However, no loan amount allocated for 3-Year Adjustable Rate Mortgages, 1-Year Adjustable Rate Mortgages, New Recreational and Used Recreational Vehicles. This does not mean that the categories that have an allocation of zero amounts will not be considered in practice. These results serve as a guide to the decision-makers based on priorities in a given situation.

**TABLE 4: Sensitivity Analysis on Available Loan Amount**

| | RUN-1 | RUN-2 | RUN-3 | | RUN-1 | RUN-2 | RUN-3 |
|---|---|---|---|---|---|---|---|
| **Loan Target** | **250.0000** | **300.0000** | **350.0000** | $X_{11}$ | 00.0000 | 00.0034 | 00.0050 |
| $X_1$ | 09.4000 | 11.1108 | 14.2900 | $X_{12}$ | 75.2500 | 85.3350 | 90.2520 |
| $X_2$ | 13.6500 | 24.4499 | 38.5700 | $X_{13}$ | 17.7500 | 26.0980 | 34.7600 |
| $X_3$ | 05.5100 | 06.1534 | 07.1510 | $X_{14}$ | 15.0200 | 16.4532 | 19.1700 |
| $X_4$ | 06.9000 | 07.8554 | 08.6600 | $X_{15}$ | 00.0000 | 00.0000 | 00.0203 |
| $X_5$ | 01.4800 | 00.0000 | 00.0000 | $X_{16}$ | 00.0000 | 00.0000 | 02.2400 |
| $X_6$ | 00.0000 | 00.0000 | 00.0730 | $X_{17}$ | 07.3300 | 08.5335 | 09.2400 |
| $X_7$ | 03.7600 | 06.6891 | 09.6540 | $X_{18}$ | 00.0000 | 00.0037 | 00.0056 |
| $X_8$ | 06.9000 | 06.8718 | 07.0600 | $X_{19}$ | 28.0600 | 21.3454 | 14.7800 |
| $X_9$ | 06.9300 | 09.9906 | 12.0290 | $X_{20}$ | 34.0300 | 42.6908 | 48.3420 |
| $X_{10}$ | 18.5400 | 26.4303 | 34.1260 | **Achievement** | **250.5100** | **300.01448** | **350.4279** |

## 3. CONCLUSION

In this study, we have presented the capability of GIP technique and have applied to a case study of credit union. From the case example, we have demonstrated that the management decision processes can considerably be enhanced through the application of GIP model. Our results demonstrate that the GIP model has improved results as we have observed that the desired required rate of return can be achieved by allocating lower amount in GIP. The application of the technique is quite subjective for the decision-making process. The improvements of results in a GIP model over LGP depends on the proper selection of penalty values, priority levels, and targets set by decision-maker in a given situation.

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# WHEN FLEXIBILITY MEETS SAND CONE MODEL: OPERATIONS STRATEGIES FOR SMEs

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## ABSTRACT

*The Sand Cone Model in operations strategy claims that firms following the unique sequence of the Sand Cone Model outperform those with other strategies. However, the previous focus was on large firms. With the flexibility and financial constrains that Small Medium Enterprises (SMEs) have, this paper attempts to explore the possibility that SMEs and large firms are suitable for different types of strategies and SMEs are able to construct different strategic priorities without following the sequence suggested by the Sand Cone Model. We hope, through this paper, more efforts will be put in SMEs as they play important roles in global economies.*

***Keywords****: Small Medium Enterprises, SMEs, Manufacturing Strategy, Operations Strategy, Sand Cone Model, Flexibility, Competitive Priorities*

## 1. INTRODUCTION

Operations strategy has evolved and has been integrated with corporate strategies since Skinner (1969) first brought attention of operations strategy to practitioners. Ferdows and De Meyer (1990) observed the phenomenon that conventional thoughts on the trade-offs among competitive capabilities (Hayes and Wheelwright, 1984; Hill, 1985; Schmenner, 1987) could be overcome through a special sequence of strategic priorities, called the Sand Cone Model. They used data from the European Manufacturing Futures Survey to test their model. However, the survey subjects were all large European manufacturers. The goal of this paper is to propose an empirical research project to investigate the limitation of the Sand Cone Model in Small Medium Enterprises (SMEs).

SMEs have played critical roles in global economies (Fiegenbaum and Karnani, 1991; Chen, 1999; Sherman, 1999; Barad and Gien, 2001; Sum, Kow, and Chen, 2004). The U.S. Commerce Department defines SME as a company with less than 500 employees (Clark, 2005). Almost half of the U.S. workforce is employed by SMEs and two-thirds of all employees in Europe work in SMEs. SMEs can approximately account for 97 percent of the U.S. exporters and SMEs are responsible for more than one-fourth of U.S. exports. The number of SME exporters grew twice as fast as large exporters from 1992 to 2002 (Clark, 2005).

Despite the importance of SMEs to global economies, however, academia did not pay enough attention to SMEs. Dangayach and Deshmukh (2001) suggest more research should be done on the “relevance of manufacturing Strategy to SMEs.” From the 260 articles they reviewed, less than 1% (2 articles) focused on the manufacturing strategies of SMEs. Therefore, this paper intends to contribute vital empirical evidence to the theories of manufacturing strategies.

The Sand Cone Model suggests firms can develop all four sustainable competitive advantages through the unique sequence of strategic priorities, while the conventional trade-off theory suggests firms will be better off if they focus on one priority or a few priorities instead of all. The sequence is: quality, dependability, speed, and cost efficiency. If firms follow this sequence of focus, they will build up their advantages concerning all the elements. Trade-offs can be avoided. On the contrary, if firms do not follow this sequence, it will be costly or difficult to enjoy all four competitive advantages at the same time (Ferdows and De Meyer, 1990).

Ferdows and De Meyer (1990) developed this model from the performance of large Japanese manufacturers and then tested the model with large European firms. SMEs are considered weaker in the marketplace because of lack of managerial expertise, small bargaining power with suppliers and customers, and few financial resources. However, they are usually more flexible than large firms and their decision-making process is efficient and effective (Jarillo, 1989; Fiegenbaum and Karnani, 1991; Sherman, 1999; Ebben and Johnson, 2005). Some researchers have generally concluded that strategies not only function differently in small firms than those in large ones, but also have different impacts (Jarillo, 1989; Fiegenbaum and Karnani, 1991). This leads us to answer the following research questions: Without the same sequence in the Sand Cone Model, can SMEs accumulate the four manufacturing capabilities to gain competitive advantages? Are there any performance differences between the SMEs using the Sand Cone Model Sequence and those using different sequences?

## 2. LITERATURE REVIEW

### 2.1 Manufacturing strategy

Skinner is considered the first one who defined manufacturing strategy and called for attention on manufacturing in corporate strategy (Skinner, 1969). After that, many scholars present different views on manufacturing strategy. Voss (1995) stated that there are three mainstreams in manufacturing strategy paradigm: "competing through manufacturing, strategic choices in manufacturing strategy, best practice." In addition to those three, resource-based view manufacturing can be added (Gagnon, 1999).

It is well-known that Porter (1980) suggested trade-offs in low cost and differentiation strategies. Interestingly, the traditional trade-off manufacturing strategy was originated from Skinner's idea (Skinner, 1969). The need for focused factories where management should prioritize certain manufacturing advantages based on corporate strategies and expect "compromises or trade-offs to be made" (Skinner, 1969). Hays and Wheelwright (1984) presented four main process choices and suggested that managers focus on one of them in order to create competitive advantages for firms. Hill (1985) also emphasized on "focused factories" when he promotes order-winner and order-qualifier ideas. After identifying firms' order winners and qualifiers, firms should synchronize infrastructures with strategic priorities (Hill, 1985). All these are related to the concept of "trade-offs." Firms have to "focus" or "prioritize" their strategies in order to create competitive advantages.

As global competition gets fierce, firms with the trade-offs strategy cannot hold sustainable competitive advantages for long. Therefore, firms have to continually create new competitive advantages (Gagnon, 1999). This is where best practice strategy came in. A highly competitive firm might accumulate all strategic advantages instead of trading off priorities such as cost, quality, or delivery speed, as suggested by trade-offs theory (Schonberger, 1986). Best practice strategy contains world class manufacturing, JIT (Just-in-Time), TQM (Total Quality Management), concepts from MRP (Materials Requirements Planning), OPT (Optimized Production Technology), FMS (Flexible Manufacturing Systems), and lean production. The best practice strategy is considered the most recent in manufacturing strategy (Voss, 1995). As long as firms perform "the best" they can outperform their competitors.

The Sand Cone Model is the bridge between traditional trade-offs strategy and the best practice strategy. The Sand Cone Model does not completely eliminate the possibility of trade-offs, while it claims that firms will be able to develop and retain the four main competitive advantages if they follow the rigid sequence of priorities: quality, dependability, speed, and cost. This does not mean that other sequences are not possible, but it will be costly to build up all advantages through other sequences, or it will be more difficult to hold the four advantages stably for a long duration (Ferdows and De Meyer, 1990). The results from analyses of data gathered from 167 large manufacturers in Europe supported their arguments for the Sand Cone Model (Ferdows and De Meyer, 1990). However, data from small and medium manufacturers were not included. In other words, the empirical findings that support the concept of the Sand Cone Model are not generalizable to SMEs.

### 2.2 SME Manufacturing Strategy

As mentioned earlier, SMEs have gradually become a vital part of global economies (Fiegenbaum and Karnani, 1991; Chen, 1999; Sherman, 1999; Barad and Gien, 2001; Sum et al., 2004). A few researches discuss about SMEs' manufacturing strategy. Fiegenbaum and Karnani (1991) found that SMEs have different competitive advantages than the large firms based on analyse of data collected from more than 3,000 companies from 1979 to 1987. Their argument was supported and they concluded that firm size is negatively correlated with output flexibility. In certain industries, output flexibility is a more useful strategy for small firms than large ones (Fiegenbaum and Karnani, 1991).

Chen (1999) investigated 33 published case reports on SMEs' operations in Taiwan and hypothesized the relationship between competitive priorities and strategic decisions in Taiwan's SMEs. Sum et al. (2004), on the other hand, looked into Singapore's high performing SMEs to develop taxonomy of operations strategies. They established three strategic clusters: efficient innovators, differentiators, and all-rounders. All-rounders did not contain any operational advantage and reply on marketing more than operations for competitive advantages. Differentiators put quality as their strategic priority but suffer in high cost. Efficient innovators focus on innovations and cost efficiency and perform best financially among the three clusters. Kathuria (2000) conducted a similar research on 196 SMEs in the U.S. The result indicated four clusters: starters, efficient conformers, speedy conformers and do all. Efficient conformers perform the best among all with strategic focus on quality and cost. The author also pointed out that the "do all" cluster puts a relatively high emphasis on all four priorities compared to other clusters. The suggestion was that these firms might have progressed through the Sand Cone Model. This is because this cluster can emphasize and enhance all four priorities simultaneously.

Ebben and Johnson (2005) had an interest in efficiency and flexibility especially in small firms. Analyzing Data collected from 200 firms, they found that small firms with focus on efficiency or flexibility outperform those with the mix of these two strategies. Both efficiency-focused and flexibility-focused firms perform better than non-focused ones. However, there was not enough evidence to show which strategy is the best for small firms. There is no significant difference in firm performance under the two strategies.

## 3. RESEARCH PROPOSITIONS

Based on research done by Fiegenbaum and Karnani (1991), SMEs have different competitive advantages than large firms, and usually the flexibility strategy is more suitable with SMEs than the large firms. In addition, when Ferdows & De Meyer (1990) tested their Sand Cone Model, they only gathered data from large firms. No previous study has applied the Sand Cone Model to SME operations. Therefore, this paper plans to test the Sand Cone Model in SMEs.

In small firms, decision-making is more responsive to environmental changes compared to large firms (Fiegenbaum and Karnani, 1991). Some researchers also point out that in small firms, there are fewer agency problems than in large ones (Rasmusen and Zenger, 1987; Fiegenbaum and Karnani, 1991). The disadvantages small firms usually face are little bargaining power over suppliers and customers, fewer financial resources and less managerial expertise (Jarillo, 1989; Fiegenbaum and Karnani, 1991; Sherman, 1999; Ebben and Johnson, 2005).

With insufficient capital, SMEs typically focus on cost saving initially. As firms grow, strategies will change to respond to market demand. With the flexibility, SMEs may be able to build the following four main competitive advantages: quality, dependability, speed, and cost in sequences rather than that sequence of the Sand Cone Model. Therefore:

> *Proposition 1: Whit the same four competitive advantages, the firm performances of SMEs with the Sand Cone Model sequence are not significantly different from those of SMEs without the Sand Cone Model sequence.*

Firms following the Sand Cone Model sequence will perform better than those not following the sequence (Ferdows and De Meyer, 1990). Perhaps, large firms are rigid and not flexible enough to cope with the consequences of altering the sequence indicated in the Sand Cone Model. With higher flexibility, SMEs may be able to deal with the effect of not following the Sand Cone Model sequence, to gain competitive advantages, and ultimately to perform well. Therefore, we postulate that:

> *Proposition 2: With the same four competitive advantages, SMEs not following the Sand Cone Model sequence will have higher flexibility than those following the Sand Cone Model sequence.*

## 4. DISCUSSION & CONCLUSION

This study aims to empirically test the research propositions. If the first proposition is supported, it is possible that there exist other operations strategies suitable for SMEs rather than the sand cone model. This means SMEs practitioners and academicians should pay attention to the ecological dynamic of SMEs instead of following the mainstream strategies evolved from large firm operations. If our first proposition is not supported, this refers that the Sand Cone Model works is robust. The contribution is that the Sand Cone Model can be applicable for both SMEs and large firms. Then we can expand this model into different industries such as service industry other than just manufacturing industry.

The second proposition emphasizes the importance of flexibility to SMEs. If this proposition is supported, the sequence of four competitive advantages as in the Sand Cone Model may not be important. This implies that the flexibility may influence the sequence of the four competitive advantages. While the Sane Cone Model recalls large firms' attention on quality, we believe SMEs should continue to work on maintaining their flexibility because it is their flexibility that contributes to sustainable competitive advantages in the long run.

As information technology has evolved, the management of SMEs can get information easier than before on how large firms should run their business. However, strategies suitable for large firms do not necessary fit environments of SMEs. Because the importance of SMEs to global economies and the interest in entrepreneurships develop, this study attempts to provide a direction for both academicians and practitioners of SMEs whether they should follow the mainstream strategies. Prevalent strategies do not necessarily help SMEs achieve better performances. We hope this paper will draw more attention on subjects regarding operations strategies in SMEs and more research will provide SMEs "customized" strategies.

This paper serves several roles. Managerially, we provide a customized research for SME practitioners to build their strategies. Academically, we can either strengthen the existing Sand Cone Model when our propositions are not supported or draw academic attention in SME operations strategies when the propositions are supported.

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# EVALUATING THE IMPORTANCE OF THE PMI INDEX: A REGIONAL STUDY TO SHOW THE BUFFALO-NIAGARA, NY PMI INDEX VS. THE NATIONAL PMI INDEX

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## ABSTRACT

*The use of economic indicators has become a standard among purchasing managers. This paper empirically examines the PMI Index to determine value towards a metropolitan area compared with the national economy. Results of this research will provide a correlation between the Buffalo-Niagara Region and the National manufacturing sector.*

***Keywords:*** *Supply Chain Management; Purchasing Management; Forecasting; Purchasing; PMI Index (National/Local)*

## 1. INTRODUCTION

The Buffalo-Niagara region is geographically located between two Great Lakes, Lake Ontario and Lake Erie. Approximately 1.6 million residents live in Western New York, which is home to one of the natural wonders of the world, the beautiful Niagara Falls (ReNU Niagara, 2005). Niagara Falls brings over 12 million tourists annually, yet much of the region has faced substantial social and economic challenges. Poverty and unemployment have tainted a community that was once a key player in the manufacturing industry.

### 1.1 PMI Index

The purpose of supply chain management is to provide a quick flow of high quality, relevant information that enables suppliers to provide an uninterrupted flow of materials to customers. Supply chain managers constantly look for ways to forecast purchasing, allowing them to perform their job optimally. Many indexes exist that managers rely on to provide them with more efficient and relevant information regarding purchasing forecasts.

"The PMI, formerly the Purchasing Managers' Index, is described on www.ism.ws, the home page of the Institute for Supply Management (ISM). According to this Web site, the PMI has earned immense recognition from economists and forecasters because of the report's early and accurate portrayal of the health of the manufacturing sector of the economy. Studies have concluded that the PMI can be a useful forecasting tool in understanding changes in U.S. economic activity and should be considered in making optimal strategic decisions" (Lindsey, Pavur 2005). The ISM accumulates data by surveying members of the ISM Business Survey Committee. Each month the committee member receives a questionnaire that requests them to pinpoint its month-to-month business activities. "The PMI is a composite index based on the seasonally adjusted diffusion indexes for the following five indicators, with varying judgmental weights applied: New Orders 30%, Production 25%, Employment 20%, Supplier Deliveries 15% and Inventories 10%" (www.ism.ws).

The purpose of this study is to examine the local PMI index, and determine if it is a valuable economic indicator of how well the local economy is fairing, when compared to the national economy. Analysis has been done to establish the validity of the PMI Index.

## 2. LITERATURE REVIEW

Research has been done to show whether the PMI index is a valuable tool to managers for forecasting purposes. Some agree that it is an efficient tool for forecasting while others agree that further indexes provide more reliability when managers are faced with decision-making. "The Purchasing Managers' Index is a valuable tool for tracking the health of the economy's manufacturing sector. It is available on a more timely basis than other, more direct measures of factory output growth" (Koenig, 2002). "The proposed CWI index is better than the PMI in accounting, for the growth rates of GDP and of industrial production over long time spans. As a stand alone indicator of business cycle turning points, the CWI rivals the CCI which, developed over many years at the NBER, is generally considered the best index of economic activity" (Pelaez, 2003).

## 3. RESEARCH METHODOLOGY

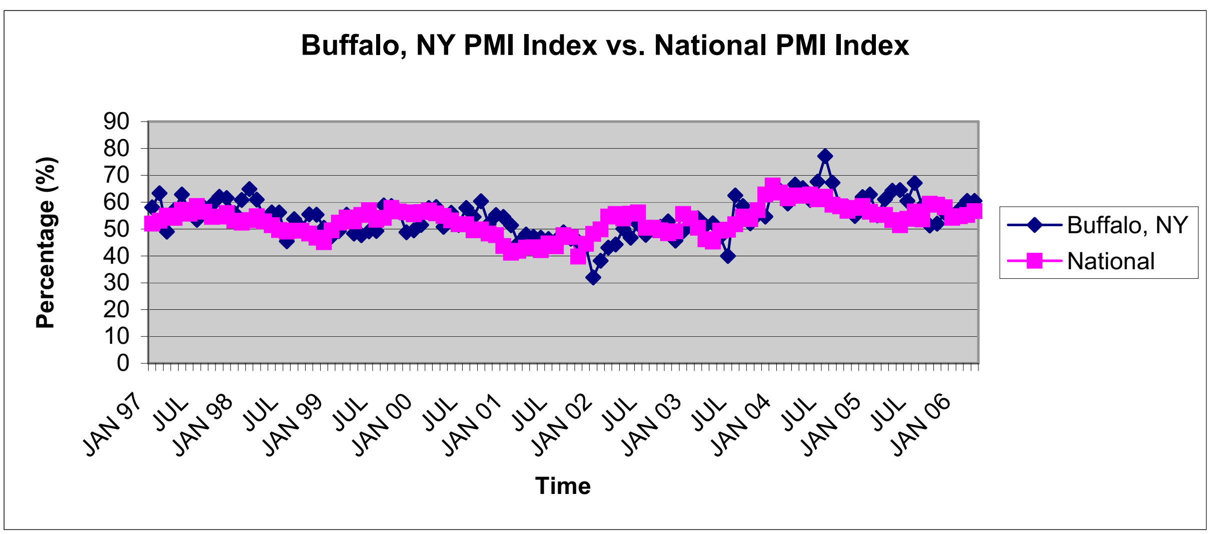
There are several main forms of methodology that will be used to show information about the PMI index and the Buffalo-Niagara Region. One of the sources of information that will be used is the Institute for Supply Management's website, www.ism.ws. This website is a valuable resource, as it provides much intelligence and up to date information that will add input about this topic. Another source of research and statistics will be gathered from the National Association of Purchasing Management-Buffalo INC., March 2006 Business Survey Monthly Comparison Report, submitted by William Ellis C.P.M., CPIM Chairman Business Survey Committee. Several websites also act as knowledgeable resources, which will add value to this study. With these sources, a collection of data will be examined in determining the validity of the study.

For the purposes of this study, the PMI index of Buffalo and the National PMI index will be compared using a paired T-Test. A paired sample T-Test is an appropriate test when two dependent variables are from two independent groups. In addition to the PMI Index, regional characteristics will show information in regards to the Buffalo-Niagara Region.

## 4. FINDINGS

Table 1 presents the mean values of the both the Buffalo, NY PMI Index and the National PMI Index between the dates January 1997 to March 2006. Graph 1 breaks down both of the index figures for each month (January 1997 to March 2006). Looking at the graph it shows pattern for both of the indexes

**GRAPH 1: BUFFALO, NY PMI INDEX VS NATIONAL PMI INDEX (Between January 1997 to March 2006)**




(Data Source: www.ism.ws & National Association of Purchasing Management – Buffalo Inc. Submitted by: William Ellis C.P.M., CPIM Chairman Business Survey Committee)

**TABLE 1: THE MEAN PMI INDEX FOR BUFFALO, NY AND NATIONAL (Between January 1997 to March 2006)**

| | Mean |
|---|---|
| Buffalo, NY | 54.50541 |
| National | 53.10991 |

(Data Source: www.ism.ws & National Association of Purchasing Management – Buffalo Inc. Submitted by: William Ellis C.P.M., CPIM Chairman Business Survey Committee)

Table 2 shows the findings of Buffalo, NY's PMI Index compared to the National PMI Index. Data was gathered from January 1997 to March 2006.

**TABLE 2: PAIRED SAMPLE T-TEST; BUFFALO, NY PMI INDEX VS NATIONAL PMI INDEX (Between the dates: January 1997 to March 2006)**

**Paired Samples Statistics**

| | Mean | N | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|
| Buffalo, NY | 54.505 | 111 | 7.0946 | .6734 |
| National | 53.11 | 111 | 5.271 | .500 |

**Paired Samples Correlations**

| | N | Correlation | Sig. |
|---|---|---|---|
| Buffalo, NY & National | 111 | .568 | .000 |

**Paired Sample Test**

| | Paired Differences | | | | |
|---|---|---|---|---|---|
| | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | 95% Confidence Interval of the Difference |
| | | | | Lower | Upper |
| Buffalo,NY - National | 1.395 | 5.9664 | .5663 | .273 | 2.518 |

**Paired Samples Test**

| | t | df | Sig. (2-tailed) |
|---|---|---|---|
| Buffalo, NY - National | 2.464 | 110 | .015 |

(Data Source: www.ism.ws & National Association of Purchasing Management – Buffalo Inc. Submitted by: William Ellis C.P.M., CPIM Chairman Business Survey Committee)

**TABLE 3: UNEMPLOYMENT RATES FOR 2006 (February and March)**

| | USA | New York State | Buffalo-Niagara Falls | Eire County | Niagara County |
|---|---|---|---|---|---|
| February 2006 | 5.10% | 5.20% | 5.90% | 5.70% | 6.70% |
| March 2006 | 4.80% | 5.00% | 5.60% | 5.40% | 6.20% |

(Data Source: New York State Department of Labor)

Table 4 lays out the median incomes of the United States, New York State and Buffalo, NY and Niagara Falls, NY. The numbers that offer the most information is the median household income of

Niagara Falls, NY ($34, 377) compared to New York State ($43,393) and the USA ($41,994). Another eye opening statistic is the percentage of individuals that are below the poverty level Buffalo (11.90%), Niagara Falls (19.5%), NYS (14.6%) and the USA (12.4%).

**TABLE 4: MEDIAN INCOME IN USA, NEW YORK STATE AND NIAGARA FALLS**

| TOPIC INCOME ($) | USA | NEW YORK STATE | BUFFALO, NY | NIAGARA FALLS, NY |
|---|---|---|---|---|
| MEDIAN HOUSEHOLD | $41,994 | $43,393 | $38,488 | $26,800 |
| MEDIAN FAMILY | $50,046 | $51,691 | $49,146 | $34,377 |
| PER CAPITA | $21,587 | $23,389 | $20,143 | $15,721 |
| INDIVIDUALS BELOW POVERTY LEVEL | 12.4% | 14.6% | 11.90% | 19.5% |
| CHILDREN BELOW POVERTY LEVEL | 16.2% | 16.9% | 16.80% | 15.9% |

(Data Source: U.S. Census Bureau, Census 2000)

**5. DISCUSSION AND CONCLUSION**

"For the overall economy as measured by the real gross domestic product (GDP), the threshold of the purchasing managers' index is approximately 44. Thus, a PMI Index of about 44 suggests an expanding GDP, while a PMI below 44 suggests a declining GDP" (Frumkin, 1998). It is clearly shown that after looking at Table 1, that for the past nine years on average both Buffalo, NY and the National PMI Index have been above the 44 mark. This would suggest that the Buffalo, NY and the National economies are expanding. That may be the case for National economy, but after analysis of the compared T-Test shows significance of the Buffalo, NY's economy compared with the National economy. Buffalo, NY's mean of 54.505 versus the National mean of 53.109 should indicate that the economy in Buffalo, NY is expanding more that the National economy. When looking at Table 3 the unemployment rates are much higher in the Buffalo-Niagara Region than compared with the U.S. and New York State data. Table 4 also, agrees with this notion that the Buffalo-Niagara Region isn't in the realm of statistics. For the median household, median family and per capita incomes, both Buffalo and Niagara Falls are below the national averages. In addition, Niagara Falls, NY has a 19.5% of individuals who are below the poverty level.

The PMI Index is in fact a valuable tool for purchasing managers when they are required to forecast for next months production levels. However, the PMI Index at the local level does not show a successful correlation to which state their economy is in.

It is clear that the PMI Index is not a valuable economic indicator at the local level. For the past decade, the Buffalo-Niagara Region has been struggling to find ways to make up for the loss of manufacturing jobs that were once a staple in the local economy. The purpose of this study was to examine if the Buffalo, NY PMI Index is a valuable economic indicator of how well the local economy is doing. For the manufacturing sector of the Buffalo-Niagara Region it is apparent that there is modest to slow growth. The manufacturing sector is not on the decline anymore. This region's old industrial base is now long gone and their manufacturing focus is now towards small businesses.

There are some limitations of this study. For the purposes of economic indicators there isn't a local gross domestic product (GDP), which is calculated on a yearly basis for metropolitan areas. Since there is no local GDP, comparing employment rates and median income levels seemed apparent as the next best thing. Another limitation is that the PMI Index is only a manufacturing indicator; this index does not take into account the service sector (there is another index that does). The survey presents another limitation which is instead of asking for figures, it asks for three responses; higher, same or lower than last month. Due to these three possible responses, "results are not that specific" (www.investopedia.com). Lastly for limitations, “the index leaves out employment costs, which are a large portion of manufacturing costs” (www.investopedia.com).

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**William T. Warren III** completed his undergraduate work in May 2006. He has been awarded a project scholarship to continue his studies at Niagara University where he will be working towards his M.B.A.

# ROUND TWO OF THE CANYON FOREST VILLAGE DEBATE: ONE STEP FORWARD, TWO STEPS BACK

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**ABSTRACT**

*The Canyon Forest Village development was proposed to better accommodate visitors to the Grand Canyon. A Draft Environmental Impact Statement (EIS) was issued in 1997. Following its critique by various public groups, the Forest Service reviewed their results, and the methodologies used, and, a year later, issued a Supplemental Draft EIS.*

*This paper examines the changes in methodologies, and results that occurred between the Draft EIS and the Supplemental Draft EIS. While the calculated impacts were converging with those of its critics, the methodologies employed were diverging in dramatic fashion.*

***Keywords****: Grand Canyon, Economic Impact,*

With reference to public policy analysis, it is fair for the public to expect that experts are dispassionate and interested in using reasonable assumptions to arrive at conclusions that can be broadly embraced. Where experts differ, given a chance to reconsider their analyses, it would be reasonable to expect that their assumptions, methodologies and results would converge. In the case of Canyon Forest Village, a development proposed on National Forest land alongside the boundary of Grand Canyon National Park, this did not happen. Between the time a Draft Environmental Impact Statement (EIS) was issued, in 1997, and a Supplemental Draft Environmental Impact Statement was issued, in 1998, the analysis by the Kaibab National Forest changed substantially. While their results were much closer to those produced by its critics, the methodologies used diverged dramatically in the process. This paper reviews the changes that were made between these two Forest Service reports, how that difference motivated their conclusions, and how a later model, authored by researchers at Northern Arizona University (Foster and Eastwood, 1999) sought to remedy shortcomings in these reports.

## 1. INTRODUCTION

The Grand Canyon has long been considered a jewel of the American west, and is one of the seven natural wonders of the world. The South Rim of Grand Canyon National Park receives almost four million visitors annually, making this one of the most visited areas in the National Park System. Sometimes, this visitor influx causes overcrowding of the park's infrastructure. Proposals have been made to accommodate these crowds while maintaining a relaxed and pleasant ambiance at the Grand Canyon. One proposal given considerable attention was a development called Canyon Forest Village (CFV).

In the summer of 1997, the Kaibab National Forest issued a *Draft Environmental Impact Statement for Tusayan Growth*. This EIS studied a proposed hotel-retail-housing development, Canyon Forest Village, to be located at the boundary of Grand Canyon National Park. While there were many variations considered, the main proposal involved the building of 3,600 new hotel rooms in the area. Participants to the EIS process, besides the National Forest Service, included the National Park Service, Coconino County (Arizona), the Northern Arizona Council of Governments and several environmental groups.

Among those excluded from the EIS process were the city governments of Williams and Flagstaff, some 50 miles and 75 miles away, respectively, from the proposed development. These cities are considered the "gateways" to the Grand Canyon, and the vast majority of park visitors travel through these cities en route to the Grand Canyon. Primarily, they had concerns over local tax revenue impacts. Also excluded were hotel owners in these cities as well as hotel and business owners in Tusayan, an unincorporated community located a mile away from the park boundary. The proposed CFV development would, in fact, be wedged between Tusayan and the park boundary.

While the hotel inventory in Flagstaff, Williams, Tusayan, and Grand Canyon, at the time of the EIS, was approximately 7,800 rooms (Kaibab National Forest, Economic Analysis, pp. 77-89), the EIS concluded that adding in CFV's 3,600 rooms would have no noticeable negative impact on business incomes, or tax revenues, in these surrounding communities. In fact, given the EIS assumptions about visitation growth to the Grand Canyon, new hotels would continue to be built in these areas over the fourteen year time horizon studied, albeit at a slower pace than would be observed if CFV was not built.

Critiques of this EIS conclusion were sharp, including those developed by BBC Consulting, from Denver, Colorado, and the Bureau of Business and Economic Research at Northern Arizona University (NAU). Both the BBC and the NAU studies concluded that the CFV project would lead to decreased spending of over one billion dollars and decreased local tax revenues of almost thirty million dollars in these communities, over the time frame studied. The differences between the EIS methodology and the BBC and NAU methodologies, and why their results were so divergent, has been analyzed in Foster and Bain (2005).

The extensive differences between the Forest Service and its critics caused the former to re-evaluate their analysis. Over the following year, they revised their assumptions and altered their methodology. In the summer of 1998, the Kaibab National Forest issued a *Supplement to the Draft Environmental Impact Statement for Tusayan Growth*.

Despite concerns over modeling during the initial EIS, one may expect that the different conclusions that were drawn would be narrowed down with this second analysis. To some extent, the EIS models were changed to reflect some earlier criticism. The Supplemental Draft changed its primary focus to two, smaller, CFV proposals, involving only 900 and 1,270 hotel rooms. It also concluded that there would be some negative impacts to the communities surrounding Grand Canyon. The earlier, overly optimistic, picture was replaced with a more realistic view in the supplement.

However, upon closer inspection, this second modeling exercise of the EIS suffered from flaws that were extraordinarily serious. As a result, once again, BBC Consulting and NAU's Bureau of Business and Economic Research, conducted an analysis and critique of this new EIS model, its assumptions, and results.

## 2. ROUND I - THE DRAFT EIS MODEL

The concept of the economic impact that results from some particular action is reasonably straightforward. In the case of the CFV proposal, what the public constituents would want to know is how the economic landscape, in northern Arizona, will be changed by the presence of this development. Simply put, what spending, income and taxes will be siphoned away from other northern Arizona communities and toward Canyon Forest Village?

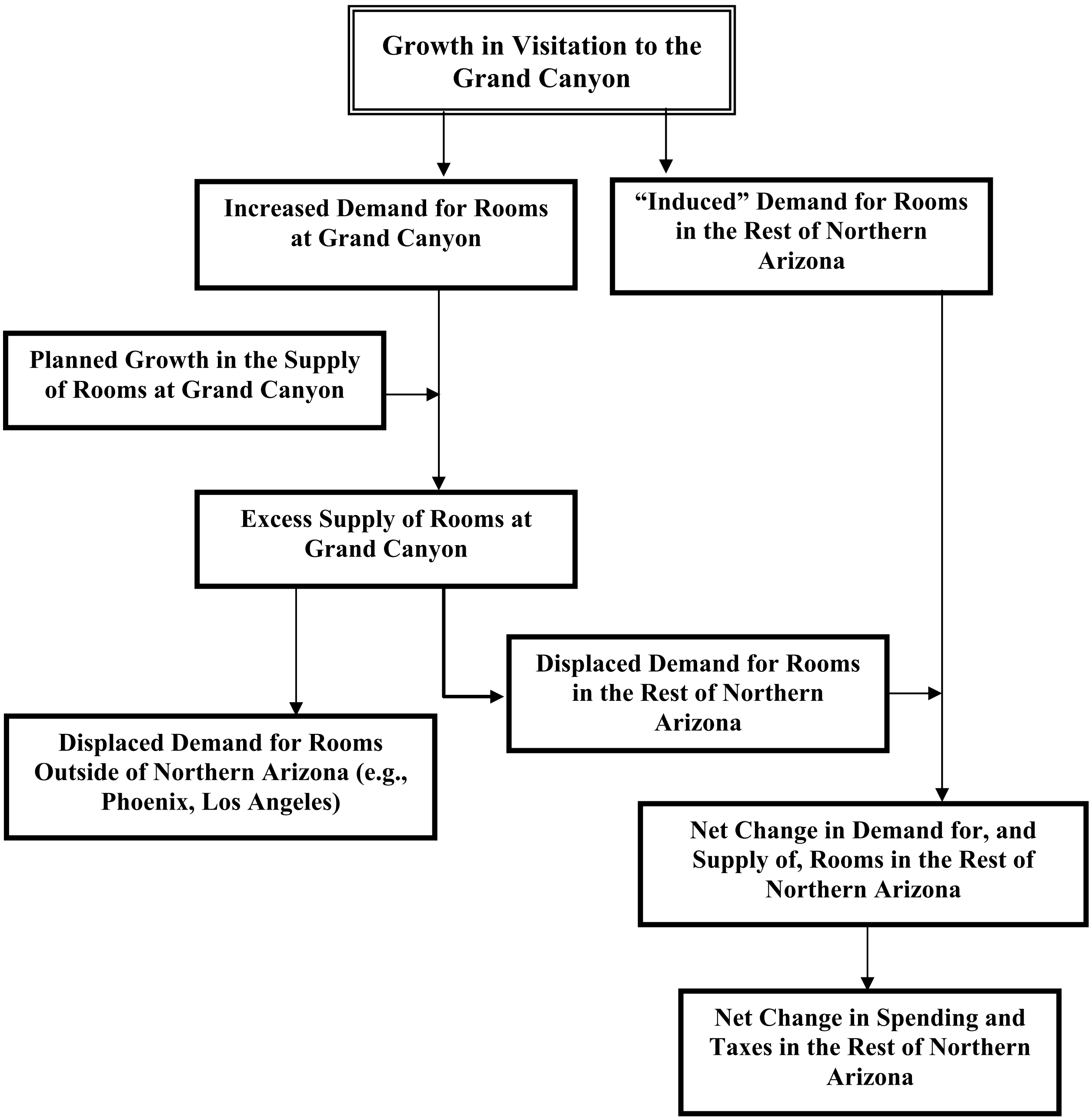
The Draft EIS model did not assess these economic impacts. Instead, the model sought to identify whether the business climate would worsen in other northern Arizona communities. That is, this analysis only identified impacts insofar as there was an absolute decline in spending, income and taxes.
The modeling process employed in the Draft EIS is shown in Figure 1. Growth in visitation to the Grand Canyon will allow for an increase in the sustainable (i.e., profitable) supply of hotel rooms over time. Since many travelers to the Grand Canyon will also be staying at other northern Arizona locations during their trip, Grand Canyon visitation growth also "induces" growth in the supply of rooms in nearby communities.

As the Canyon Forest Village project was so large (initially more than a 46% increase over existing room inventories), and because it was presumed to have no effect on Grand Canyon visitation, in and of itself, the analysis concluded that there would be an excess supply of rooms available at the Grand Canyon. Given that visitors would have a preference for staying close to the Grand Canyon, this excess supply of rooms would fill up as demand for rooms was displaced from other areas.

Some of this displaced demand would come from locations outside of northern Arizona – Las Vegas, Phoenix and Albuquerque, for instance. This impact was treated as irrelevant to this analysis, although it would be relevant in a full accounting of economic impacts.

The remainder of the displaced demand would fall on northern Arizona communities. Taken by itself, this would reduce the supply of rooms that can be sustained. However, given the induced increase in rooms demanded, the spillover effect due to normal growth in Grand Canyon visitation, the Draft EIS reports the net effects (induced increase in demand less displaced demand) as the relevant impacts from the CFV development.

**FIGURE 1. FLOWCHART SHOWING THE MODELING PROCESS FROM THE DRAFT EIS FOR TUSAYAN GROWTH, 1997.**



Looking at the flowchart in Figure 1, the "impact" on northern Arizona hoteliers will depend on these parameter values:

1. the growth in visitation to the park,
2. the induced demand for rooms in northern Arizona, and
3. the displacement of room demand from northern Arizona.

The Draft EIS analysis argued for relatively high visitation growth rates, high levels of induced demand and low levels of displaced demand. That is, each of these parameters is valued in such a way as to minimize the net change in hotel room supply in the rest of northern Arizona. In this case, with a CFV of 3,600 rooms, the Draft EIS posited that 1,447 rooms will be displaced from northern Arizona. The Draft EIS concluded that room supply would grow in northern Arizona by 3,982 rooms over the study period. Therefore, with CFV, room supply in northern Arizona would grow by a net of 2,535 rooms. The policy interpretation by the Forest Service was that Canyon Forest Village would merely cause the lodging business of northern Arizona to grow more slowly than would otherwise be the case.

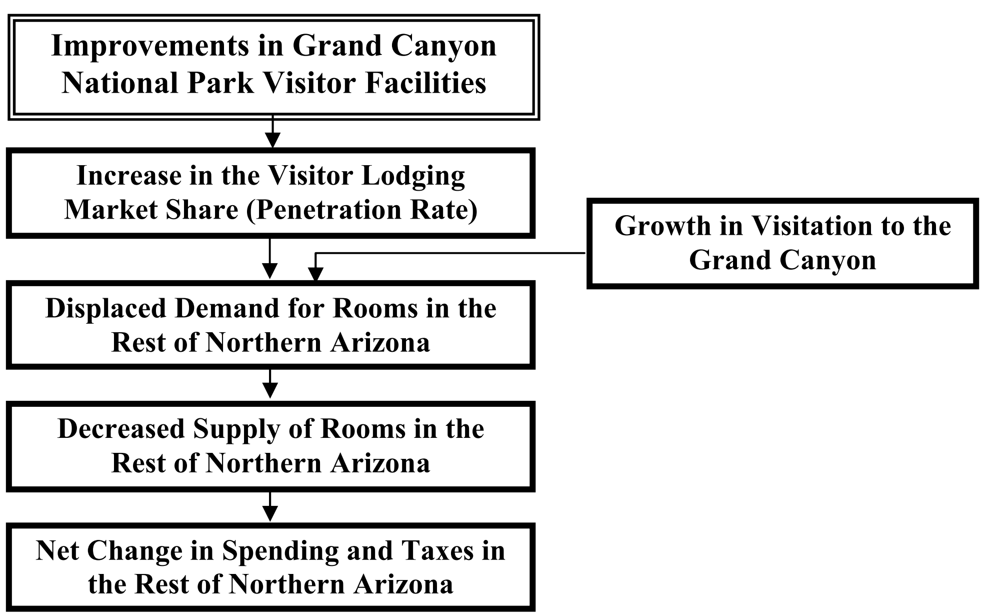
## 3. ROUND II - THE SUPPLEMENTAL DRAFT EIS MODEL

The critiques of the Draft EIS prepared by BBC and NAU focused on both the choice of parameter values used in the Forest Service model as well as the modeling process itself. Consequently, in the Supplemental Draft EIS, the economic model used to assess impacts was changed significantly. There was no longer any netting out of adverse impacts from expected growth; economic impacts were now calculated correctly. It concluded that a smaller version of CFV, at 1,270 rooms, would in fact lead to negative impacts on spending elsewhere in northern Arizona, which is exactly what one would expect.

However, this new model had made a significant change in the Forest Service's methodology. It had eliminated the CFV development as a causal factor in the analysis of impacts. Whether CFV is zero rooms, 900 rooms, 1,270 rooms, or 3,600 rooms was now irrelevant, as it would have no bearing on the calculated impacts.

Instead, this analysis presumed that the market share (or "penetration rate") of visitors staying overnight in the Grand Canyon area – inside the park, in Tusayan and in Canyon Forest Village – would rise, from 31.5% of all visitors, to 35%, as improvements to visitor facilities come on line for the park. These improvements largely concerned the transportation infrastructure. Still, it is only this rise in market share that is responsible for all the shifting of the demand for rooms from elsewhere in northern Arizona. To see how this new model functioned, see Figure 2.

**FIGURE 2. FLOWCHART OF THE MODELING PROCESS FROM THE SUPPLEMENTAL DRAFT EIS FOR TUSAYAN GROWTH, 1998**



The shifted demand is due solely to the higher penetration rate. And, at higher growth rates in visitation, so, too, does the amount of shifted demand rise. Interestingly, in the Draft EIS, higher growth rates helped to offset any negative impact from CFV, because it contributes to the induced demand. Now, higher growth rates will actually worsen the impact, since the higher penetration rate is now applied against a larger visitor flow. Essentially, the Supplemental Draft EIS has modeled the economic impacts of improved visitor services called for in the park's own management plan. (Grand Canyon National Park, General Management Plan, 1995).

There are adverse impacts due to the CFV development, but they are now completely felt in the Grand Canyon area. Where the increase in overnight visitors, due to the expected growth trend in visitation and the rising penetration rate, helps to cushion the effects of adding 1,270 rooms at CFV, it will be insufficient in allowing area hotels to maintain long-run sustainable occupancy levels. As a consequence, occupancy rates will fall for off-rim hotels, inside the park, and for hotels in Tusayan. There is, however, no corresponding calculation of the dollar loss in income to owners of these other properties, which makes this an inconsistent accounting of impacts. For example, a room displaced from Flagstaff, because of the higher penetration rate, will result in the average loss of $140, per night, of spending (lodging, food, gasoline, etc.). However, a room displaced from a hotel in Tusayan will not be shown as resulting in any loss of spending. Instead, it shows up in this analysis as a reduction in Tusayan-area occupancy levels.

Table 1 summarizes the salient differences between the Draft EIS model and the one used in the Supplemental Draft EIS. The table only shows those differences for parameter values that are comparable between the two studies. For example, while the Supplemental Draft EIS considered a range of growth rates and a range of room displacement shares, the values on the table were chosen to better compare this new model with that used in the Draft EIS.

**TABLE 1. MODEL FEATURE DIFFERENCES IN EIS STUDIES**

| | Draft EIS | Supplemental Draft EIS |
|---|---|---|
| Grand Canyon visitation growth rate[a] | 4% | 4% |
| CFV room proposal[b] | 3600 rooms | 1270 rooms |
| Impacts on Tusayan | none | lower occupancies |
| Tusayan/CFV avg. occupancy | 70% | 64% |
| Displaced room night demand | 12,322,765 | 447,370[c] |
| Room displacement share to northern Arizona | 42% | 50%[d] |
| Room nights displaced from northern Arizona[e] | 5,175,919 | 223,685 |
| Displaced rooms from northern Arizona | 1447 | 67 |
| Reason for room demand displacement | CFV | higher penetration rates |
| Net room change northern Arizona | +2535 | n.a.[f] |
| Spending in northern Arizona | grows slowly | falls by $31 million |

[a] The Draft EIS used values of 2.5%, 4% and 6%, while the Supplemental Draft EIS showed results for rates of 1.5%, 2.5% and 4%. This table shows the 4% outcome for each report to make the conclusions more comparable.

[b] The Draft EIS was primarily focused on the CFV proposal for 3600 rooms, although other alternatives were considered. The Supplemental Draft EIS ultimately focused on a new alternative that allowed for 1270 rooms.

[c] This ignores the displacement of room demand that takes place in Tusayan and inside the park at off-rim lodges, which was not considered in the Supplemental Draft EIS.

[d] The Supplemental Draft EIS reports results for 50%, 70% and 100% displacement. The 50% result is shown here to make its results more directly comparable with the Draft EIS.

[e] In the Draft EIS this is for the study period 1997-2010; for the Supplemental Draft EIS this is for the period 1998-2010.

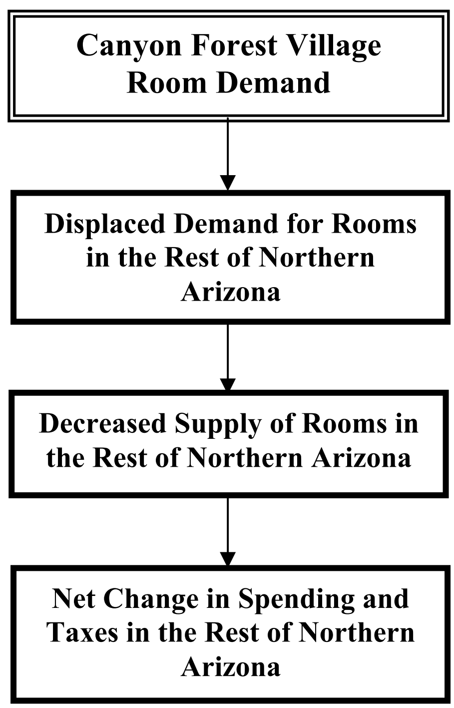
[f] As the impact is not dependent upon the growth rate in room demand, this calculation is not made.

The results of the Supplemental Draft EIS are quite contrary to those of the Draft EIS. Even though the new CFV alternative was only about one-third as large, it was shown as actually decreasing spending in northern Arizona. Of course, this was true of the Draft EIS, where 1,447 rooms were shown as being diverted from northern Arizona and to CFV. In that case, the Draft EIS only showed the residual amount of spending left to northern Arizona, not the reduction in spending levels. , Also, while the impact is now shown as a negative one, it is quite minimal. In this particular scenario, the Supplemental Draft EIS now only shows that 67 rooms will be diverted from other northern Arizona locations, only five percent of the rooms planned for Canyon Forest Village.

**4. ROUND II - THE NAU MODEL**

As we have noted, the appropriate measure of economic impacts is the difference between what happens with CFV with what happens without CFV. Since the EIS analysis presupposes that CFV will not have any impact on visitation levels to the Grand Canyon, nor on visitation levels to northern Arizona, nor on the penetration rate of visitors to the Grand Canyon, this becomes a simple calculation: all of CFV's business must come from some other, existing business. Since the focus of these studies was on impacts to northern Arizona, the only question is how much of CFV's business is expected to come from competing regional communities. Consequently, the NAU study modeled this process in a simple and straightforward manner, as illustrated in Figure 3.

**FIGURE 3. FLOWCHART OF THE MODELING PROCESS FROM THE NAU STUDY, 1999**




The EIS focused on the impacts from 2001 to 2010. Given a set schedule for building the proposed 1,270 rooms and an occupancy rate consistent with long-run profitability, one can calculate the number of room nights sold over this time frame. Some fraction of these room nights sold will be displacing rooms otherwise sold in the rest of northern Arizona. While the Draft EIS used displacement shares of 50, 70 and 90 percent, the NAU study considered that 70 to 90 percent would be a more reasonable range of outcomes, with this displacement largely coming from the gateway cities of Williams and Flagstaff. The NAU study argued that, since the Forest Service presumed that Canyon Forest Village would not attract new visitors, then it must attract visitors who would otherwise be staying elsewhere in the region.

The differences between the Supplemental Draft EIS and the NAU study are shown in Table 2, where the room displacement share is 90 percent for each model, making their results comparable. The Supplemental Draft EIS results are shown for a 2.5 percent growth in Grand Canyon visitation. The NAU model was not dependent on the growth rate in visitation to Grand Canyon, as it is irrelevant to the impact to be calculated.

**TABLE 2. MODEL FEATURE DIFFERENCES IN SUPPLEMENTAL DRAFT EIS, THE NAU STUDY, AND THE FINAL EIS**

| | Supplemental Draft EIS | NAU | Final EIS |
|---|---|---|---|
| Grand Canyon visitation growth rate | 2.5% | n.a.[a] | 2.5% |
| CFV room proposal | 1,270 rooms | 1,270 rooms | 1,270 rooms |
| Displaced room night demand[b] | 370,370 | 3,020,120 | 1,195,121 |
| Room displacement share to northern Arizona | 90% | 90% | 90% |
| Room nights displaced from northern Arizona | 333,333 | 2,718,108 | 1,075,609 |
| Displaced rooms from northern Arizona | 130 | 1,064 | 421 |
| Spending impact to northern Arizona | - $46.7 million | - $383 million | -$150 million |
| Tax revenue impact to northern Arizona cities | - $1.36 million | - $11.7 million | -$4.4 million |

[a] The NAU study does not consider the growth rate in visitation in calculating impacts from the CFV project.
[b] Both EIS figures ignore the displacement of room demand that takes place in Tusayan and inside the park at off-rim lodges.

The resulting differences in impacts are quite startling. While both analyses allowed for variability in parameter values, the effects on spending and tax revenues are eight to ten times higher with the NAU model.

## 5. ROUND III - THE FINAL ENVIRONMENTAL IMPACT STATEMENT

In the summer of 1999, the Regional Forester for the National Forest Service made a decision in favor of the Canyon Forest Village alternative that had 1,270 rooms. At that time, a Final EIS was released (Kaibab National Forest, Record of Decision, Final Environmental Impact Statement for Tusayan Growth, 1999) . Generally, the Final EIS used a model of economic impacts identical to that used in the Supplemental EIS. However, this new model assumed that the base penetration rate of Grand Canyon visitation was 30%, versus the 31.5% used earlier. Also, for the CFV proposal accepted, they presumed that the penetration rate would rise to 37%, versus the 35% used earlier. Consequently, the “measured” impacts were greater in the Final EIS, although they still had nothing to do with Canyon Forest Village. The features of this model are shown in the last column of Table 2, for a displacement share of 90% from other northern Arizona locations.

As with the Supplement, the Final EIS concluded that the CFV proposal would reduce occupancy levels in Tusayan and the Grand Canyon, although the dollar value of those impacts continued to be unreported. And, while the presumed impact has worsened for this proposal, from a $46.7 million reduction in spending to a $150 million reduction, this is due to a wider gap between the penetration rate before, and after, the project is completed. Still, these impacts are less than half those shown in the NAU study.

## 6. CONCLUSIONS

The use of an economic impact analysis in evaluating public policy is routine. In the case where this process allows for feedback and further refinements of modeling procedures, we should be able to expect that differing analyses should converge. On face value, in the case of the Canyon Forest Village proposal, considered by the Kaibab National Forest, this convergence seemed to have taken place. However, upon closer examination, the analyses offered as part of the National Environmental Policy Act process, by the Forest Service and by critics, there was a divergence of methodologies that was masked by the seeming convergence of results.

The appropriate manner in which to calculate economic impacts is to compare the economic landscape with, and without, the proposal under consideration. That was not done in the Draft EIS for Tusayan Growth. In the Supplemental Draft EIS, economic impacts are properly stated, yet the analysis no longer considered the development proposal, Canyon Forest Village, in and of itself, to have any impact. The source of these impacts were now exogenous to the number of hotel rooms under consideration. While the Supplemental Draft EIS forces negative impacts out of its model, these results are specious.

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**CHINA PHARMACEUTICAL INDUSTRY AND GOVERNMENT POLICIES**

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## ABSTRACT

*China's pharmaceutical market was growing at a rate of 14.8% during 1997-2002. It was expected to become the world's largest market by 2020. To fulfill the requirements of the World Trade Organization (WTO) agreement, China has opened its pharmaceutical market to foreign competitors in 2004. Presently, Chinese pharmaceutical companies control 70* percent *of the market. According China State Food and Drug Administration (a federal agency similar to FDA of the United States), the situation may reverse to foreign companies owning 70* percent *of the market in a few years. Due to the potential of the market, American companies cannot afford to ignore it. However, before plunging into the market, we have to ask some questions. What are the obstacles and uncertainties of the market? What are the policies and regulations? This paper reviews the China pharmaceutical market situation and the relevant policies.*

***Keywords:*** *China, pharmaceutical, health care reform, foreign investment, law and policy.*

## 1. INTRODUCTION OF CHINA PHARMACEUTICAL MARKET AND THE HEALTH CARE SYSTEM

China gross domestic product grew at an average rate of 9.8 percent between 1960 and 2005 (Morrison, 2006). While China pharmaceutical market grew at a faster rate of 14.8 percent between 1997 and 2002. It was projected to reach $60 billion by 2010 and to become the world's largest market by 2020 (Ng, 2004).

In contrast to $93 billion U.S. pharmaceutical industry which has 1,441 companies whose top eight firms control 47.9 percent of the market, China had 5,371 drug makers in 2004 and reduced to 3,500 in 2005 ("Worldwide," 2004). The top ten manufacturers accounted for 20 percent of the market (Paessler & Wolff, 2005). Many Chinese drug makers do not have their own brand names. Multiple drug makers produce the same medicine. For instance, SFDA issued 73 registrations to 73 different drug makers to product the same medicine—Ginseng Oral Syrup. On the other hand, a single Chinese drug maker may manufacture the same drug with different names. Jinxia Wang, secretary general of the China Commercial Medicine Association, told China Central Television (CCTV) that the medicine market was quite confusing and that consumers could find the same kind of medicine with different names, different packaging, and different prices from the same manufacturer using the same registration number ("How Can Be, 2006).

On the distribution side and different from the U.S. where the top four firms control 47 percent of the wholesale market, China has 16,500 wholesale companies and less than 5 percent of them have annual sales over $6 million (Xing, 2003). China has more than 160,000 retail drug stores. Eighty percent of drug sales reach patients through hospital pharmacies. Chinese hospitals are integrated with their own pharmacies. Previously, hospitals purchased medicines directly from drug makers or from wholesalers. In an effort to eliminate the briberies between hospitals and medicine suppliers, the Chinese government set up a guideline for hospitals to purchase essential medicines through public auctions (Guideline, 2000); however, the recent discussions at the Chinese People's Political Consultative Conference were to reconsider public auction as the way to purchase medicines because layers of fees in the auction process jacked up the prices ("Need a Wall," 2006).

### 1.1 Three Reforms

Since the 1950's, Chinese medical insurance was carried by individual companies that contracted with hospitals to provide medical care for their employees. This old system started to encounter serious problems in the 1990's. The medical expenses increased 28 times between 1978 and 1997; companies were no longer able to sponsor medical insurance individually; the majority of the population had no medical coverage ("Why, 1999). To overhaul the health care system, the Chinese government issued a series of regulations:

1. The Decision of the Central Committee of the Communist Party of China and the State Council on the Reform and Development of Public Health System. Central Committee [1997] No. 3.
2. State Council's Decision on the Establishment of the Basic Medical Insurance System for Urban

Workers. State Council [1998] No. 44.
3. Guideline on the Reform of the Medical and Public Health System. Office of State Council [2000] No.16.

These regulations are to bring about so-called three reforms, i.e. medical insurance reform, medical delivery system reform, and pharmaceutical development and distribution reform.

*Medical insurance reform* is to create a basic medical insurance system for urban workers and to make participation mandatory for certain types of companies. Urban workers are employees of big firms or state-owned enterprises. Employees, employers, and the state contribute to medical insurance funds. These funds are aggregated at the city or county level. Patients go to designated hospitals for diagnoses and treatments. Patients can either purchase medicine at hospital pharmacies or at designated third-party pharmacies. In China, very few doctors have individual practices or clinics. A majority of doctors work at hospitals.

*Medical delivery system reform* categorizes medical institutions into for-profit and non-profit. Non-profit institutions emphasize social services and public interests such as medical research and public health. The government gives tax breaks and subsidies to non-profit units. For-profit hospitals are self-financing; however, they have to follow certain rules such as purchasing essential medicines through public auctions, adhering to government-suggested prices for essential drugs, and maintaining separate operation records for medical services and pharmacies.

*Pharmaceutical development and distribution reform* is to regulate drug development, production, distribution, pricing, and advertising. SFDA uses Good Manufacturing Practices to regulate production and uses Good Supply Practices to regulate distribution. The national government maintains a price list for essential drugs and updates the list periodically. Provincial governments maintain separate price lists based upon the national list. Wholesalers and retailers sell essential medicines based upon these price lists.

The three reforms delivered encouraging results. It was reported at the National Social Insurance Conference in 2006 that the medical insurance enrollment of 2005 exceeded 130 million people which represented 10.5 percent of the total population. Compared with the enrollment of 37.87 million in 2000, it was a 240 percent increase (The National Social Insurance Conference Held in Changsha," 2006).

## 2. CHALLENGES AND PROBLEMS IN PHARMACEUTICAL INDUSTRY

### 2.1 Cycles of Price War

It is normal to see a hospital generating 50 to 70 percent of its revenue from medicine sales ("Analysis," 2006). The government cuts down the profit of hospitals by imposing a price list for essential medicines. Consequently, hospitals increase the prices of non-listed medicines and motivate doctors to prescribe non-listed drugs instead. Drug makers quit producing listed medicines and launch "new" medicines with higher prices. "New" medicines are not new. They are substitutes of old, listed medicines. To control the price inflation, government has to update the list and reduce the prices. Between 1998 and 2002, the Chinese government updated the list and cut prices 17 times, only to see the prices increased 17 times ("80% Price Drop," 2002).

### 2. 2 How New Drugs Get Developed and Registered

In the U.S., the average cost to develop a new drug is $403 million or $802 million if calculated at a discount rate of 11 percent. Only one of every 10,000 potential medicines investigated by research-based pharmaceutical companies make it to the market (DiMasi, Hansen, & Grabowski, 2003). It took Americans an average of 8.1 years in the 1960's or 15.3 years in the 1990's to deliver a new drug (Lamb, 1998).

How can Chinese drug makers manage to pay for launching new drugs so frequently? The fact is that 97 percent of the 3,000 drugs manufactured by Chinese drug makers since the 1950's are copies of foreign products ("Prevention," 2006). In 2004, SFDA approved 1,009 new medicines, but not a single one was a new medicine. All "new" medicines had new packaging, new formulations (powder, capsule, or tablet), or new dosages ("New Tactics," 2006). Under an SFDA regulation, only "new" medicines can charge higher prices. During a TV interview, a sales representative revealed to CCTV that his company spent a 5,000,000 CNY (equivalent to $624,570) activity fee to lobby state officials to get a new medicine approved ("How Can Be," 2006).

**2.3 The Lack of Transparency in the Chinese Justice System**

Yang Xiao, president of the Supreme People's Court of China, announced at 4th Session of the Tenth National People's Congress that "[a]s of July 1, 2006, all the second-instance trials of death sentence cases shall be heard in open court." ("Death Penalty," 2006). This means that an appeal case can be open or closed, but if it is death penalty appeal, it must be open after July 1, 2006. Previously, China had no open requirement for appeals trials, thus most appeals were closed trials. A law professor of China Southwest University of Political Science and Law, Yifei Gao, admitted that he had never seen a media report on a trial of a death penalty appeal. Gao pointed out that the concealed operation deprived the hearing of arguments from both sides and public supervision (Gao, 2005).

In an effort to increase transparency in its legal system and to curtail briberies in public medicine auctions, China's Ministry of Public Health ordered local governments to establish black lists. Any enterprise with a bribery record will be posted on a "black list" and will not be allowed to submit bids at medicine auctions ("Ministry of Public Health," 2006). It was reported that the Beijing authority established a bribery black list in January 2006; however, as of February 17, 2006, not a single inquiry had been made. A close look revealed a clearer picture. In order to make a query of the black list, a person must bring an identification document, an introduction letter from his employer, and an explanation of the motivation to the White Color Crime Prevention Division of the People's Procuratorate of Beijing. He/she must file an application. The application can be approved only after the head of the division and the division attorney general have given their signatures.

**2.4 Intellectual Property Right**

A survey of 348 American pharmaceutical executives indicated that China's inability to uphold intellectual property law and risks with data security were the concerns for investing in China (Bellucci, 2006). The World Health Organization estimated that between 6 percent and 10 percent of medicines on the world market are counterfeit. Two-thirds of the fake drugs came from China (Zamiska & Tesoriero, 2006). The WTO requires China to enhance protection of intellectual property rights and to comply with international regulatory standards (Shen, 2004). China progressed through several stages in protecting intellectual property rights and securing pharmaceutical market. The steps included

- "Patent Law" April 1, 1985;
- "Pharmaceutical Administration Law" July 1, 1985;
- "Regulations for the Protection of New Medicine and Technology Transfer "May 1, 1999;
- "Regulations on Administrative Protection for Pharmaceuticals" January 1, 1993;
- "Second Amendment to Patent Law" July 1, 2001.

China has set up a complete legal system to protect intellectual property rights. During the period of 2000 to 2003, China handled 23,257 cases of intellectual property rights violations ("Progress," 2005). In 2001, 2002, and 2003, the number of cases increased by 8.62, 17.78, and 12.61 percent respectively. The government gave two explanations of the increases. First, after China joined the WTO in 2001 and opened the market, foreign investments increasingly brought in new technologies and new products. This gave opportunists chances to counterfeit. Second, the legal system aggressively enforced the laws and cracked down on the violators (Xiao, 2000).

China's security authorities also cooperated with international law enforcement to disband multination criminal networks ("Police," 2006). For example, in the last two years, Pfizer initiated 51 out of 82 seizures involving fake Pfizer products in China (Zamiska & Tesoriero, 2006). Pfizer hired more than 40 full-time security persons to police globally. Some of the agents were former senior FBI official and U.S. secret service agents. Ironically, while Pfizer was policing the Chinese market, the Chinese Patent Re-Examination Board overturned Pfizer's Viagra patent issued by the China State Intellectual Property Office. Pfizer appealed against the decision. The overturn of the decision will not become effective until Pfizer's appeal is processed (Monari, 2004). The Viagra case serves as a warning. Western drug makers are anxiously waiting for the verdict of the Viagra case because it is an indication of whether China will uphold its promise or not. A dozen or more Chinese companies are also anxiously waiting because if the appeal is denied, they will be able to sell Viagra ("Intellectual Piracy in China," 2005).

## 3. NEW POLICIES

### 3.1 Restructuring Policies

Premier Jiabao Wen delivered the work report and proposed the Eleventh Five-Year Plan (2006-2010) to the National People's Congress on March 5, 2006 (Wen, 2006). In his report, Wen pointed out that restructuring by introduction of a modern corporate structure into state-owned enterprises was accelerated in 2005. A total of 21.9 billion CNY was allocated by the central government to subsidize the policy-based closures and bankruptcies of 116 state-owned enterprises. Opposite from American antitrust laws, the Eleventh Five-Year Plan is to increase concentration in industries and to "support corporate acquisition, encourage joint production agreements between enterprises, and nurture competitive enterprises to grow stronger" (Wen, 2006). The objective of Chinese government is to increase competitiveness by adopting modern management and technology, to build large competitive enterprises, and to increase concentration ratios through acquisitions. Besides acquisitions, China is going to use regulations to eliminate the weak and the small. Laws such as quality ("Product Quality Law," 2004) and environmental and resources protection laws ("Environmental Protection Laws," 1989) will be increasingly used to eliminate undesirable enterprises. In his proposal to the National People's Congress, Premier Wen listed eight major tasks for 2006. One of the tasks is to enforce these laws and shut down enterprises that use resources destructively, contaminate the environment, violate production safety standards, and use obsolete equipment. The weak and small companies will be forced out of business within the next few years (Paessler & Wolff, 2005).

### 3.2 Restructuring of Pharmaceutical Industry

SFDA adopted measurements to regulate food and drug production and distribution. For instance, the Good Manufacturing Practices standard requires drug manufacturers to pass inspections and obtain Good Manufacturing Practice certificates in order to manufacture drugs in China. So far, as the result of implementing this standard, 1,340 of 5,371 drug makers have been forced out of business ("Worldwide," 2004). Some experts estimated that about a half of the pharmaceutical enterprises would be shuttering up their businesses ("China Incorporates," 2001), while others predicted about two-thirds would be shut down (Paessler & Wolff, 2005).

On the distribution side, SFDA has adopted the Good Supply Practice (GSP) standard to ensure a quality medicine supply. Medicine suppliers have to pass the inspections and obtain certifications in order to supply medicines ("Pharmaceuticals," 2000). The Chinese government also encourages establishment of store chains ("Notification," 2000). Fifty-eight retail enterprises have been selected to build chain stores across the nation. This policy increases concentration ratio by letting chain stores acquire weak and small firms. The government expects that five to ten giant drug distributors, each with annual sales of more than 5 billion CNY ($600 million) will be established in a few years. Despite government support, domestic medicine retailers still face great difficulties in surviving global competition. The competition has already been knocking at the door. On June 27, 2002, Medicine Shoppe and NEP-Stars Drug Store formed a store chain. Medicine Shoppe is a rapid growing global enterprise with 1,300 chain pharmacies. NEP-Stars Drug Store is the largest store chain in China with 1200 stores. The alliance marked the first U.S. investment in China drug retailing and opened the prelude to a cut-throat competition ("Marriage," 2006).

### 3.3 Restructuring of Government Investments and Emphasizing R&D

In specifying the task for 2006, Premier Jiabao Wen said that, "we will establish a mechanism to ensure stable growth of government investment in science and technology. This year, the central government will allocate 71.6 billion yuan [$8.9 billion] for investment in science and technology, a year-on-year increase of 19.2 percent (Wen, 2006)." China has been increasing R&D spending since the Tenth Five-Year Plan (2000-2005). In 2005 for the first time, China exceeded the U.S. in exporting high-tech products with China exporting $220 billion and the U.S. exporting $216 billion. China was responsible for America's entire $44 billion trade deficit in advanced technology products ("Rapid growth," 2006). The concept of outsourcing to China may have to be redefined. It is no longer of manual labor manufacturing slippers or rugs for Wal-Mart. It is about research in high-tech industries such as pharmaceuticals. Some American Pharmaceutical researches have already been moved to China. For example, China and the American Epidemiology

Society conducted a research with 100,000 Chinese cancer patients with a cost of 40-60 percent of that in the U.S. (Shen, 2004).

China also provides opportunities for gene therapy research, stem cell research, and infectious disease detection and prevention. China holds a permissive stem cell research policy ("World Stem Cell Map," 2006). China was one of 34 countries that voted against the United Nations Declaration on Human Cloning. Thus, China is not bound by the declaration. While the United States was withdrawing money from stem cell research, the Chinese government invested heavily in stem cell research. At the end of 2002, China opened its first umbilical cord blood hemopoietic stem cell bank in Tianjin. The facility has a total capacity of 300,000 samples and a daily process capacity of 100. As of September 2005, the bank had collected 37,000 samples. This facility has processed more than 1,000 national and international inquiries (Liu, 2006).

### 3.4 Foreign Investments

Since China passed the joint venture law in 1979, foreign direct investment (FDI) grew rapidly. The cumulated FDI from 1979 to 2005 is $622.4 billion (Morrison, 2006). In 2005 alone, there were 4,400 new foreign investments with a total of $60.3 billion FDI (Wen, 2006). Since 1993, FDI has been decreasing and the mount of capital has been increasing (Jiang, Christodoulou, & Wei, 2001). Another trend is a shift from joint ventures toward wholly-owned foreign enterprises. By 2010 the number of wholly-owned subsidiaries is expected to push up from 36 to 48 percent and joint ventures will drop from 23 to 14 percent (Jarvis, 2005). Presently, Chinese pharmaceutical companies control 70 percent of the market. According SFDA, the situation may reverse to foreign companies owning 70 percent in a few years (Paessler & Wolff, 2005). For example, Bayer plans to invest $1.8 billion in China to produce chemicals by 2006. The investment facilities will manufacture 50,000 tons of coating materials per year, 200,000 tons of Makrolon polycarbonate and polyurethane raw materials per year, and 40,000 tons of compounding per year. In 2005, Bayer set up a trade unit in Shanghai to market its products in China and the Asia-Pacific region. Bayer plans to reach $1 billion in sales per year in China within next five years ("Bayer," 2004).

## 4. CONCLUSION

This paper reviewed the pros and cons of the Chinese pharmaceutical market. American pharmaceutical companies may consider taking the opportunity, but must prepare for the complications. A pharmaceutical company may start an investment by doing a joint research project, by setting up a branch office, or by building a wholly-owned facility; however, according to Williason's transaction cost theory, if any of the following situations exist, investors may want to choose an integrated approach (Williamson, 1981). The situations are

- A high possibility of opportunism in the market;
- Having reached the limit in process information and solving complex problems in the environment;
- Transactions involved with high uncertainty and asset specificity.

An integrated approach may involve signing long term contracts with suppliers and establishing alliances. The objective is to make the transaction flow tightly coupled under its own administrative control.

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# RELATIONSHIPS AMONG FACETS OF EMPLOYEE SATISFACTION: THE ROAD TO EXEMPLARY PROCESS DESIGN AND RESOURCE ALLOCATION

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## ABSTRACT

*Evans and Lindsay (2005) suggest that designing processes that capitalize on human characteristics is paramount to success. Hesket, Sasser, and Schlesinger (1997) suggest that employee satisfaction is one of the important characteristic of humanity that must be considered when designing processes, and that the greater employee satisfaction is, the greater effectiveness of the process in question. Thus, for process designer to design processes correctly, understanding employee satisfaction is imperative to success. Knowing how to increase employee satisfaction correctly should reduce the amount of ever scarce resources needed to gain competitive effectiveness. Unfortunately, to date, the results of empirical studies do not wholly support or refute that employee satisfaction is key to greater employee effectiveness, or how employee satisfaction affects effectiveness, much less which facets of employee satisfaction should absorb resources in what order in an effort to increase satisfaction, and thus, effectiveness.*

*Reasons for the mixed story from empirical research are likely due to be many. These reasons could be that contextual and configurational variables are not being included in all studies or that the construct of employee satisfaction is not wholly understood. Some studies measure the many facets of employee satisfaction documented in the literature and then combine the scores to determine an aggregate estimate of an employee's satisfaction. Such a practice can combine polar response to different facets in such a manner that the employee shows medium to high satisfaction, when in fact they are very satisfied with a set of facets and dissatisfied with another set. If the facets that received low scores are the facets that determine effectiveness, then effectiveness would be low, even though aggregate satisfaction appeared high. The converse situation could also happen thus, the need to include facets of employee satisfaction without developing an aggregate measure in empirical studies as much as possible. Once the facets of employee satisfaction are included in a study, researchers can determine the relationship between each facet and effectiveness, but the question still remains which facet to dedicated resources to in the quest of effectiveness.*

*Autonomy has been presented as a facet of employee satisfaction and, when it is the degree of autonomy that is compared to effectiveness, there is a positive correlation between autonomy and effectiveness. This relationship would indicate that money spent on increasing autonomy would be money well spent, but this may not always be the case if there is another element of employee satisfaction that determines the level of employee satisfaction relative to autonomy. If process designers knew such relationships they would be more likely able to design and fund effective processes and make resource allocation decisions that would maximize process effectiveness.*

*This research explores the relationships among four facets of employee satisfaction. Understanding of these relationships should help process designers and those who allocate resources perform their duties in an exemplary manner.*

# SEGMENTATION SCALES FOR INTEGRATING GLOBAL EQUITY MARKETS

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## ABSTRACT

*The segmentation tests applied to the differences in returns indicate a significantly increased trend towards integration across countries for four different periods. Conversely, the tests used for the differences in total and diversifiable risk fractions show significant degrees of segmentation in the majority of markets. We see that the selection strategies for regions and countries are still important while dealing with global equity markets.*


***Keywords:*** Global Equity Markets; Integration of Financial Markets; Developed versus Emerging Markets

## 1. INTRODUCTION

It is well known that the higher the degrees of segmentation in the financial markets, the greater the diversification benefits and global investment opportunities. The degree to which global economies and investment markets are integrated plays a crucial role in the relative importance of region, country and industry effects in global equity returns. Higher levels of integration shadow national borders and reduce the significance of geographical effects compared to global industry or style effects.

In this paper, I attempt to make a link between country selection and market segmentation. Segmentation scale is measured as the fraction of systematic risk of a country's national market in relation to benchmark world portfolio, similar to Akdogan's model (1996 and 1997). A comprehensive empirical analysis of the segmentation scales is the primary objective of the paper. First, I measure degrees of segmentation for each country over four time periods, by including a sufficient number of equity markets. Second, I test the return, risk and scale differences for each country vs. the world benchmark within each period. Third, I apply Wilkonson and Kinskol-Walkis Rank Test to see the differences in return, risk and segmentation scales over four time periods. Finally, I examine co integration effect for the developed and emerging markets as two subsets.

## 2. LITERATURE REVIEW

A few factors have accelerated the integration process during the last two or three decades, encompassing emerging markets (Saunders and Walter (2002)). Those factors include the application of worldwide deregulation and liberalization policies for international investments, improved global information technologies, an increased number of global mergers and takeovers, privatization efforts, and the integration of regional blocks. However, recent literature mostly indicates that global equity markets are integrating at a very gradual pace (Errunza et al. (1992), Akdogan (1996 and 1997), Hsueh and Pan (1998), L'Her et al. (2002), and Puchkov et al. (2005)).

Recent findings also point out increased global market correlations particularly in bear markets (Solnik (2003) and Campbell et al. (2002). This means that the rewards of global diversification will not be there when investors most need them. In the presence of higher correlations, or contagion, the benefits of international diversification will diminish, or vanish. Cooley et al. (2003) contradict this view and verify that the return enhancement and risk reduction benefits of global diversification still continue. Further, Van Royen (2002) demonstrates that developed countries still seem to be sheltered from contagion, but not emerging markets. In case of emerging markets, diversification across all emerging markets, or the use of a single composite index, no longer creates diversification gains. County or region selection strategies are essential to outperform benchmarks (Bekaert and Urias (1999), Eaker et al. (2000), Sener and Cinar (2002) and Fernandes (2005)).

## 3. DATA AND METHODOLOGY

I investigate degrees of financial segmentation across developed and emerging markets with a well-accepted tool of modern portfolio theory. That is the Markowitz, Sharpe and Lintner combination, with risk decomposition analysis. Within this framework, the return on a country equity index ( $r_j$ ) and risk ( Var ( $r_j$ ) are expressed in terms of beta coefficient ($\beta_j$ ) and systematic risk contribution.

That is:

$$r_j = \alpha_j + \beta_j r_w + e_j \qquad (1)$$

$$Var.(r_j) = \beta_j^2 \, Var.(r_w) + Var.(e_j) \qquad (2)$$

Where $\alpha_j$ , $r_w$ and $e_j$ refer to the alpha coefficient, return on the world portfolio and error term. By dividing the right hand side arguments of equation (2) into total risk, the systematic risk ($s_j$ ) and diversifiable risk ($d_j$ ) components can be derived:

$$s_j = \beta_j^2 \, Var.(r_w) / Var.(r_j) \qquad (3)$$

$$d_j = Var.(e_j) / Var.(r_j) \qquad (4)$$

The time period of the study for the developed countries is 1970-2003 and is divided into four sub periods (1970-78; 1979-86; 1987-95; 1996-03). The time span of the emerging markets includes two sub periods (1987-95; 1996-03). Monthly total returns are obtained from the MSCI EAFE database for the developed countries and from the S&P/ Global Stock Markets Indices. The sample includes thirteen developed countries and ten emerging markets. The MSCI World Index and IFCG Composite Index are used as surrogates for the world markets of the developed and emerging markets respectively.

Monthly total returns are obtained in dollar terms. First, cross correlation coefficients, arithmetic and geometric means, variances and beta coefficients are calculated for each country, by using the SPSS. Then, based on the calculated statistics, the systematic and diversifiable risk fractions, and segmentation scales are obtained. Mean difference tests are applied for the statistical significance.

## 3. FINDINGS AND CONCLUSION

Findings of the study have significant implications for the international investors and portfolio managers. Several segmentation tests applied to the differences in returns reveal a significantly increased trend towards integration across countries in each period, but not over time. Conversely, the tests used for the differences in total and diversifiable risk fractions indicate significant degrees of segmentation in the majority of the markets, implying the importance of the country specific risk. The developed countries and emerging markets show some evidence of co integration effect within the subsets, with less significance over time. This study shows that the crucial role of country and region selection strategies still continues, while investing in global equity markets.

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# SOARING HEALTHCARE COSTS IN THE UNITED STATES: IS THE PHARMACEUTICAL INDUSTRY A MAJOR CONTRIBUTIOR?

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## ABSTRACT

*Healthcare is a hot bed of controversy in the United States. The numbers covered by health insurance are dwindling and healthcare costs are soaring. Employers are either dropping coverage altogether or are passing costs on to their employees. Many employers are abandoning their health care plans for their retirees. Those dependent on Medicare are faced with ever-decreasing benefits. Workers lucky enough to have coverage are facing higher premiums, co-payments, and deductibles. According to a Harris Interactive poll of 2271 respondents, 57 % of respondents mentioned pharmaceutical industries as an area most in need of governmental regulation. Is the pharmaceutical industry a major cost driver or does the problem lie elsewhere? Is there justification for the high prices charged for medicines and drugs? Those who live in Border States routinely cross the border to Mexico or Canada to obtain drugs at a price that is substantially lower than in the U.S. Should free trade in pharmaceutical products be encouraged so that the American consumer could benefit from cheaper drugs manufactured elsewhere? This paper attempts to examine these and other related factors affecting healthcare costs.*

**Keywords:** *soaring costs, cost driver, free trade, government regulation*

# PROFILES OF STRESS: AN EMPIRICAL COMPARISON OF EMPLOYEE STRESS FACTOR DIFFERENCES IN GERMANY AND THE US

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**ABSTRACT**

*According to The HR Magazine (May, 2006 p. 14), "Today, American workers are saying that they are accomplishing less than they did a decade ago and are feeling more rushed on the job". This is the point of departure for our study. Using a questionnaire based upon the work of Geert Hofstede, we surveyed employees of a MNC headquartered in Germany with branches in the US. We create three stress groupings: High, Middle and Low based upon selected variables measured on Likert-type scales, e.g., How often do you feel nervous or tense at work? We examine these stress groups on a variety of variables to develop profiles of these three groups. The data set with 1,300 observations on more than 75 variables provides a rich rendering of the profiles both overall and by country. For example, we find for both the German and US respondents that more stress is associated with less satisfaction in particular respecting Fringe Benefits and Having Challenging Work. And the German employees who were classified as exhibiting high levels of stress are less satisfied with Fringe Benefits than their US counterparts.*

*Keywords: Work Goal Importance, Preference*

# WHAT REALLY MATTERS? DEMOGRAPHICS, LEARNING STYLES, AND SOURCES OF MOTIVATION AS PREDICTORS OF COURSE GRADE

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The literature is rife with research reporting the importance of considering student learning styles and sources of motivation when anticipating mode of course delivery. Indeed an instructor's sensitivity to each of these factors, along with student demographic characteristics, has been shown to affect student evaluations of both the instructor and the course. Data from 100 students enrolled in courses taught by Information Systems faculty are analyzed to ascertain whether clear patterns exist among/between these factors. Following an assessment of the relationships among these individual characteristics and scale scores, the predictive ability of individual demographics, preferred learning styles, and significant sources of motivation is tested using the student's overall course grade as the dependent variable.

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# HE EFFECTIVENESS OF ONLINE COURSE FEATURES ON STUDENT PERFORMANCE

James F Buck, East Carolina University, Greenville, North Carolina, USA

## ABSTRACT

*As the demand for online courses grows, providers are continuing to evaluate a wide range of online presentation tools. Those selecting course presentation software (such as BlackBoard) need to analyze the tradeoffs between the features of such programs and the investment required to maximize student retention/success. This paper analyzes the marginal benefits of adding features of course presentation software to the academic success of students within the financial management course. We start with determining a baseline success rate for an online course with minimal support then we add tools and evaluate standardized performance within the key concepts of the introductory finance course. Initial comparisons find statistically significant improvements gained by adding tools. We also find that there is a point where adding tools does not produce statistically significant improvements in student performance. While student satisfaction continually improves as features are added, statistical evidence of student understanding of the concepts does not. This paper points to the possibility of some appropriate limit of tools which will produce the maximum improvement in student success.*

***Keywords:*** *Distance Education; Course Management Software; BlackBoard*

# NEW DIRECTIONS IN REGIONAL EMPLOYMENT FORECASTING MODELS

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## ABSTRACT

*Forecasting employment at regional level, in the form of embedding input-output relations within econometric models, has taken a new turn. The point of emphasis in these models is on the dynamic properties of inter-industrial relationship in the region's economy. The degree with which the dynamic characteristics of the region's economy is incorporated into an estimating econometric model, in-turn, determines the predictive accuracy of results. The purpose of this paper is to investigate the development and usefulness of most recent dynamic integrated strategies as well as challenges and opportunities that lie ahead with the progress of such methodologies. The dynamic characteristics of most recent models will be assessed against their static properties in the earlier versions.*

***Keywords:*** *input-output, holistic embedding, dynamic integration*

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