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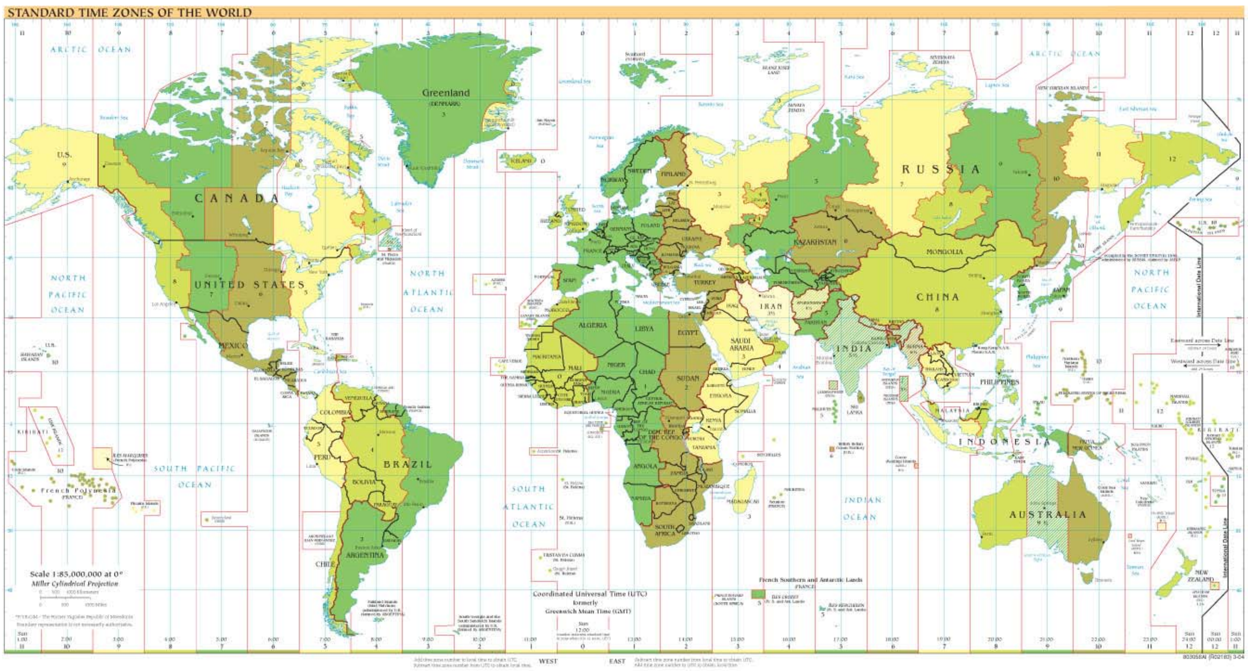

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We hope you will join us again next year at the **IABE-2013 Orlando (Florida), IABE-2012 Venice, Italy and IABE-2012 Las Vegas.**

Warmest regards,

Detelin S. Elenkov, Ph.D. Alan S. Khade, Ph.D. Scott Metlen, Ph.D.

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FIRMS' BUSINESS MODELS AND DYNAMIC CAPABILITY IN THE ELECTRONICS INDUSTRY

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ABSTRACT

This paper examines under what conditions and with what business model a firm can maintain a strong competitive position and relatively secure financial performance in the electronic components and consumer electronics industry. By focusing on capability and characteristics of firms following different business models under changing environmental conditions, we have analyzed the performance of firms in the electronics industry. We extend the literature of firms' dynamic capability by examining the competition of firms' business models under changing environmental conditions. We also contribute to the "history-friendly" model literature by identifying a firm's business model and its internal and external dynamics as successful factors in the evolution of the electronics industry. We first start from the study of Samsung Electronics as empirical evidence and use history-friendly simulation methodology to provide a general analysis of the complex relationships among business models, synergy effect, and environmental condition changes. We find that in the electronics industry, a firm following the "open-combined business model" can achieve secure financial performance and maintain a strong competitive position under the conditions of large market size in the components industry and high importance of integration in the consumer electronics industry.

Keywords: *Business model, History-friendly model, Strategy, Dynamic capability, Synergy, Samsung Electronics, Simulation, Electronics industry*

1. INTRODUCTION

After the financial crisis that started in the United State in 2008, most electronics firms suffered from the declining financial performance in their revenues and profits. A few selected companies, including Samsung Electronics and LG Electronics, however, showed relatively strong performance during this economic downturn. Also, they recovered very quickly from the economic crisis and grew more rapidly than other companies. Their success raises some question: What allowed these companies to maintain relatively strong performance and maintain a strong incumbent position against fast-growing new entrants, promoting innovative ideas? We start from the case study of Samsung Electronics as empirical evidence and then use a simulation methodology to provide a general analysis of the study. By using a history-friendly model—an agent-based simulation model, we analyze the complex relationships among business models, synergy effect, and environmental condition changes.

We shed light on how a firm with a single business model should shape that business model under different environmental conditions. Our study finds that in the electronics industry, a firm with the open-combined business model (OCBM), which has both electronic components and consumer electronics businesses but is also open to selling its core components to other firms, can achieve secure financial performance and maintain a strong competitive position under the conditions of large market size in the components industry and high importance of integration in the consumer electronics industry.

2. LITERATURE REVIEW

2.1 Failure or success of firms

There has been much theoretical work on why some successful firms were not able to sustain their success and failed as technologies and market environments changed, and under what circumstances other firms survived. Technological change in an industry is generally characterized as continuous "normal technical progress" in incremental innovation or as discontinuous "newly emerging technology paradigms" in radical innovation (Dosi, 1982). When established firms face radical changes, they are often at a disadvantage with respect to new firms (Eisenhardt, 1989). According to many scholars, established firms mostly fail for two reasons when challenged by radical change: *inferior technological capability* caused by organizational inertia (Eisenhardt, 1989; Henderson and Clark, 1990; Leonard-Barton, 1992; Tripsas, 1997) and the *lack of incentive to invest* in new technology (Christensen, 1997; Henderson, 1993).

The literature on the failure of firms is complemented by extensive literature on firms' success. There are two major research streams regarding the sustained success of firms: the resource-based view (RBV) and dynamic capabilities. The RBV argues that sustained competitive advantages of firms result from the collection of valuable resources and capabilities that are not perfectly imitable by other firms (Barney, 1991; Dierickx and Cool, 1989; Grant, 1991; Rumelt, 1984; Wernerfelt, 1984). Barney (1991) provided the criteria of the VRIN framework: Valuable, Rare, Imperfectly imitable and Non-substitutable resources. While the RBV emphasizes identifying and securing VRIN resources in static or incremental changing environments, dynamic capabilities encapsulate the evolutionary nature of resources and emphasize creating and renewing valuable resources in radically changing environments (Eisenhardt and Martin, 2000; Helfat, 1997; Teece and Pisano, 1994; Teece et al., 1997; Zollo and Winter, 2002).

Although the literature discussed above extensively deals with the failure and survival of firms, none of it has explained the relationship between environmental change and a firm's competitive position from the perspective of a business model. Our research extends this literature by focusing on how a firm should shape its business model and make synergy in order to enhance its dynamic capabilities and thereby maintain a strong competitive position in dynamically changing technological markets.

2.2 The history-friendly models

The history-friendly model (HFM) is an agent-based simulation model first introduced by Malerba et al. (1999), which aims to find mechanisms and factors to explain industrial evolutions including technology advance, innovation, market structure, institutional changes, and industrial leadership in industrial organization, in business organization and strategy, and in the histories of industries (Malerba et al., 2001). The key element of HFMs is the firms' learning as the industry evolves. The heterogeneity of firms (or agents) determines their learning capabilities.

Our study is a branch of general issues of HFMs. This study does not focus on how or why the industry has evolved in certain ways. Rather, it starts from an observation of past phenomena that occurred over a relatively short term and focuses on causal explanation of them by investigating characteristics of firms in terms of their business models under different environmental conditions. Thus, our research is not restricted to the replication of the industry's evolution but also investigates the success of firms from the perspective of business models.

3. FOUR MAJOR TYPES OF BUSINESS MODLES

3.1 Type I: Specialization business model

The specialization business model (SBM) is a model in which a firm focuses on specific businesses. There are two main categories in the SBM—a supplying manufacturing business and a consumer-product manufacturing business. While a firm with the SBM can simplify its strategies and exert more effort on a specific business than diversified firms, this model also has some disadvantages. Supplying manufacturing businesses always need to consider price competitiveness in a competitive market since consumer-product providers have bargaining power. Consumer electronics businesses, on the other hand, are dependent on their suppliers for the costs of components and the deadline of delivery if the suppliers have market power. Also, both businesses will suffer more than diversified firms from decreasing sales in economic downturns since the latter have multiple revenue sources.

3.2 Type II: Vertical integration business model

The vertical integration business model (VIBM) is a model in which a firm with the SBM integrates upstream suppliers and its downstream buyers in its supply chain. A firm with this model can continually have a stable supply of components from internal suppliers. Also, it can increase its controllability and quality by closely cooperating and optimizing its components and products. However, a firm with VIBM needs to spend extra money in integrating firms of the supply chain and in managing integrated businesses. In addition, it generally tends to stick to specific component designs or technologies to optimize its products, so the VIBM can limit or lower a firm's flexibility.

3.3 Type III: Diversified business model

The diversified business model (DBM) is a model in which a firm diversifies its business to enhance its revenue stream. This model appears at the later period of the SBM or the VIBM once the firm's performance reaches a certain profitable level. A firm with the DBM can have relatively stable profits from the various business areas. Despite this advantage, firms following the DBM need huge investment if they embark on a new business, which also has higher risk than focusing on existing businesses.

3.4 Type IV: Open-combined business model

The open-combined business model (OCBM) is a model in which a firm has related combined-businesses—components and consumer products together—but is also open to selling its core components to other firms (see Figure 1). The firm with the OCBM aims to maximize profits of both its components and its main businesses. Thus, the firm can sell its core components to others if doing so is beneficial to the firm even though it has strong connections between its own businesses. A firm with the OCBM has strong synergy in its business because it has a strong relationship between core components and end-user products.

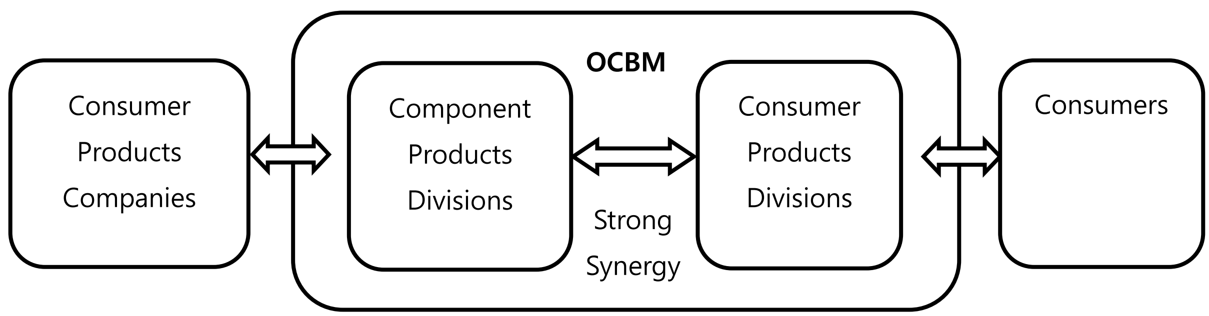

Figure 1. The business structure of the OCBM

The OCBM also has a stable supply of components, higher quality, and higher controllability. In addition, a firm with the OCBM has flexibility since it sells the components the other firms need. It can also reduce the costs by an economy of scale because it produces components for other firms as well as its own. Also, during economic fluctuations, a firm with the OCBM can have relatively stable profits since it does not put all its efforts in one business area and also benefits from the portfolio effect of combined businesses.

4 THE HISTORICAL PHENOMENA AND THE CASE OF SAMSUNG ELECTRONICS

4.1 The historical phenomena in the electronics industry

In this section, we briefly illustrate the phenomena that present interesting dynamics between the electronic components and consumer electronics industries over past 50 years (1960s-current). From the perspective of technological changes, we divide it into three different stages and analyze what environmental changes have occurred in each stage.

The first stage was analog era (1960s-1970s). After transistors and integrated circuits (ICs) were developed, the analog device era was finally opened in the 1960s. The introduction of analog devices also increased the development of electronics products in the 1970s. In this period, since a new consumer electronic product of a firm was introduced by the development of its core component technology, the firm did not open its technology and considered it as a competitive advantage. Thus, the market for general-purpose core components was small and nascent. Also, the industry has a characteristic of less integration technologies while focusing on improving quality of the products in the consumer electronics industry.

The second stage was the digital era stage (1980s-1990s). In the 1980s, the PCs became enormously popular and thereby the components industry grew dramatically. These components are all semiconductor-based devices and thus it contributes to the growth of the semiconductor industry. In this period, thanks to the popularity of PCs and globalization of electronics products, the market size of general-purpose core components increased significantly. Under this market condition, the competition was intense and only the firms which could meet high quality and low-price conditions were able to lead the market in the components industry. In the consumer electronics industry, as the specialized components firms grew and high quality core components became available, the integration technology began to make a mark.

The last stage was the convergence stage (2000s-current). In the 2000s, as customers' needs became more diversified, to satisfy these customers, convergence digital products had emerged based on integration of various multi-media devices. For example, the mobile phone has evolved to the convergent device that integrates a camera, mp3 player, game console, dictionary, note, diary, and etc. In this period, as a wide range of diversified electronics products emerged, the demand for components drastically increased. However, since too many firms invested in the same market, an excessive supply occurred periodically. Thus, only the firms which have enough financial assets and price competitiveness with high quality were able to survive. Thus, securing manufacturing capability with high productivity is the essential capability for a firm to lead the components market. On the other hand, in the consumer electronics industry, a firm that can attract diversified customers is the key element of the success. Thus, merit of design and/or integration capability plays an important role to lead the market satisfying various customers' needs.

4.2 Samsung Electronics and its business model development

Samsung Electronics Co., Ltd. was founded in 1969 as one of the subsidiaries of the Samsung Group. The initial business model of Samsung Electronics was the SBM. The company started its business by assembling analog devices such as black & white TVs after buying core components from various suppliers. While Samsung Electronics was becoming a home-appliance company, Samsung entered the semiconductor business in 1974. Though the semiconductors were core components of its consumer-electronics products, Samsung established a new company, Samsung Semiconductor, to sell semiconductors to other companies. Thus, we can consider Samsung Semiconductor as a supplier following the SBM. In this way, Samsung prepared for the coming of the digital era (1980s-1990s).

In 1982, Samsung Semiconductor expanded by entering the telecommunication business. This movement can be considered an activity of the DBM, since it extended Samsung's business to handsets and telecommunication devices. By the mid-1980s, Samsung's semiconductor business was growing very quickly because of the drastically increased demand that resulted from PCs becoming popular and hence its financial performance improved. Also, the performance of the technologies of each business improved. In this positive business climate, Samsung Electronics finally merged all three businesses in 1988 and became a firm with the OCBM, to foster cooperation between these businesses. However, the synergy effect between businesses was not significant since it takes a long time for an organization to embed communication channels including knowledge transferring. After Samsung Electronics' success in the semiconductor market, it entered the LCD business in 1993. LCD panels were the core components of TVs and monitors. In this way, the business model of Samsung Electronics became the complete form of the OCBM.

As the convergence era began in the 2000s, Samsung Electronics produced various consumer-electronics such as PCs, monitors, multimedia and mobile devices, using its own core components such as memory, chips, and LCD panels. While Samsung set up the OCBM accordingly, the synergy effect between combined businesses generated outstanding performance of the firm. For example, in the TV and mobile businesses, since the internal semiconductor and LCD divisions stably provided high quality core components and other divisions also provided various technologies for multimedia functionality, Samsung was able to integrate various latest technologies while capturing consumers' needs and thereby led the market. In fact, over recent years, Samsung Electronics with the OCBM has overtaken Sony, Panasonic, Hitachi, and Toshiba—which has been ranked world-top electronics companies during the past several decades.

5 THEORETICAL FRAMING

5.1 The two environmental conditions and key elements for success

As we discussed in Section 4, there were two major environmental changes in the electronics industry evolution: one is the drastic increase of the components market size and the other is the growth of significance of the integration technology in the consumer electronics industry. We assume that these changes of two environmental conditions affected differently the capability of firms following different business models. For component businesses, the radical increase in the market size drove components firms to develop *manufacturing capability*. In other words, the firm needed to focus on productivity improvement to reduce costs and on R&D to increase quality. On the other hand, for consumer electronics market, varied and rapid chaining customers' needs drove a firm to increase *integration capability*. In other words, firms needed to make a product that has multiple functionalities in a single device so that it can satisfy different customers.

5.2 Dynamic capability and the synergy from the open-combined businesses

Given the relationship between combined businesses and changing environmental conditions, firms following different business models have different capabilities. Among business models, the OCBM produces positive synergy thanks to its unique structure and characteristics. For instance, in the component business, since the components can be optimized and customized for internal consumer products, the strong internal interactions positively affect the quality of consumer products. Also, since the firm is open to sell its core components to other firms, it can access outside knowledge and transfer it to the internal consumer product divisions. This allows a firm with the OCBM to quickly catch up with new technological trends and monitor the demand of component types. In the consumer products business, the internal purchase of components and strong technological feedback help the component divisions to increase their manufacturing capability. The cross investment is another important synergy effect. If one business suffers from negative profits in the market, the others can help to overcome this and secure financial performance by cross investment. These dynamics are well illustrated in Figure 2.

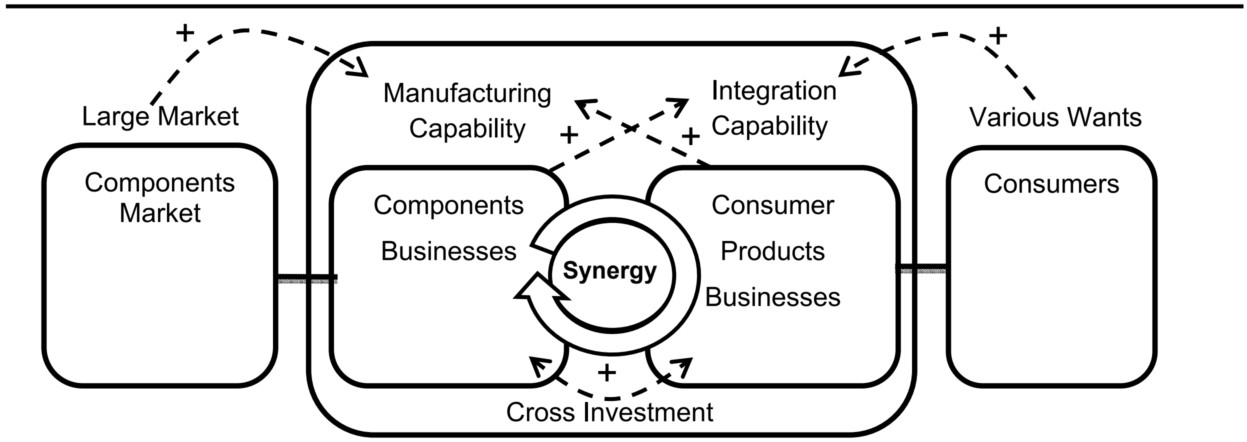

Figure 2. The internal/external dynamics of the open-combined business model

According to the framework by Wang and Ahmed (2007), the dynamic capability consists of three common capabilities—adaptive capability, absorptive capability, and innovative capability. The adaptive capability is developed by the openness of the OCBM, which allows a firm to readily recognize the external environmental changes such as market demand and technology trend. Also, since a firm with the OCBM searches related technologies and business areas, it comfortably combines and internalizes them through its accumulated inter-divisional knowledge and channels while producing synergy. These activities increase a firm's absorptive capability.

On the other hand, a firm with the OCBM does not only focus on increasing innovative capability but also focus on emphasizing imitation capability. In fact, in the consumer electronics industry, it is also critical for a firm to develop imitation capability since it otherwise can fall behind the competition by not quickly catching up with popular leading products. The OCBM has a favorable structure for balancing innovation and imitation since a firm with the OCBM can balance these in its different combined businesses. For instance, in the components business, the firm may focus on finding *innovative* technology to look for high-quality and low-price core components. In the consumer-products business, however, the firm may make *imitations* that are better than original products from other leading firms, while reducing its R&D costs and utilizing its varied technologies from the combined-businesses.

In short, the OCBM helps a firm to secure dynamic capability in a rapidly changing environment. The synergy between combined businesses makes it possible for the firm *quickly* to adapt to environmental changes, absorb (search and internalize) new technologies, and introduce new (or better) products. Thus, a firm with the OCBM is more likely to have *fast dynamic capability*, and thereby it is able to survive and succeed in the dynamically changing markets.

6 MODEL

6.1 An overview

In this section, we use a simulation model to investigate the different performance among firms following different business models under different environmental conditions. The dynamics of this model are formed by the interactions between the component businesses and consumer products businesses. This evolutionary stochastic simulation is designed to investigate key elements of each industry competition. In the components market, we selected productivity as an evolving parameter since it is related to manufacturing capability. In the consumer products market, we considered the merit of product as an evolving parameter since the product differentiation is the key factor in the competition.

6.2 Components business

6.2.1 Firm's production

In the model, we assume a fixed proportion function. Thus, the component production of the firm *i* at time *t* is defined by

$$Q_{it}^{C} = A_{it} K_{it} \tag{1}$$

where A_{it} is capital productivity and K_{it} is capital stock. Then, the total quantity of the components industry is determined by

$$Q_{t}^{C} = \sum_{i} Q_{it}^{C} \tag{2}$$

Industry output is the sum of individual firms' outputs. Then, the market price is determined by

$$P_{t}^{C} = D(Q_{t}^{C}) = \min[R / Q_{t}^{C}, P_{\max}] \tag{3}$$

where R is total consumer revenue for the product and $P_{\max}$ is the upper bound of price. Then, profit per unit capital π^{C} is defined as revenue minus average costs per unit capital minus expenditure on innovation and imitation per unit capital, as in Nelson and Winter (1982) and Kim and Lee (2003).

$$\pi_{it}^{C} = P_{t}^{C} A_{it} - C_{BM} - r_{it}^{Cn} - r_{it}^{Cm} \tag{4}$$

where C_{BM} is total costs per unit capital, r_{it}^{Cn} is innovative R&D expenditure per unit capital, and r_{it}^{Cm} is imitative R&D expenditure per unit capital stocks.

6.2.2 The evolution of productivity

The productivity at the next period ($\widetilde{A}_{i,t+1}$) is determined by innovation and imitation activity during the current period.

$$\widetilde{A}_{i,t+1} = \max(A_{it}, d_{it}^{Cn} \widetilde{A}_{it}^{n}, d_{it}^{Cm} A_{it}^{m}) \tag{5}$$

where d_{it}^{Cn} and d_{it}^{Cm} have the values of 0 or 1, which indicate failure or success of respectively innovation and imitation. $\widetilde{A}_{it}^{n}$ and A_{it}^{m} are productivity that can be attained when the activity of the innovation or imitation succeed, respectively. If imitation succeeds, the productivity after imitation is defined by

$$A_{i,t}^{m} = L_{BM} \underset{i}{Max}(A_{i,t-1}) + (1 - L_{BM})A_{i,t-1} \qquad 0 \le L_{BM} \le 1 \tag{6}$$

where L_{BM} is an absorptive capability of each business model. This parameter has different values according to how well its business model can search external knowledge and internalize it. Thus, the bigger the L_{BM} value, the closer to the highest (best practice) productivity level the firm is within the industry in period *t*. If innovation succeeds, the productivity after innovation is determined by

$$\log(\widetilde{A}_{it}^{n}) \sim N(\lambda_C(t), \sigma_C{}^2) \tag{7}$$

$$\lambda_C(t) = A_{i,0} + \frac{\beta_{BM}}{T} t^2 \tag{8}$$

where λ_C is the mean value and σ_C is the standard deviation of normal distribution. Thus, the productivity of a firm is determined stochastically while being proportional to time *t*.

6.2.3 Firms' investment behavior

Firms determine their production level by controlling capital investment. An important decision parameter for the investment is the mark-up ratio. In this model, we assume Cournot behavior by firms as the Nelson and Winter model. Thus, the target investment is defined as follows, as in Winter's model (1996).

$$I_{it}^{*} = (\delta + (m_{it} - m_{it}^{*}) / m_{it})K_{it} \tag{9}$$

where δ is the depreciation rate, m_{it}^{*} is the target mark-up rate, and m_{it} is the current mark-up rate. Since the target investment can be realized if firms can finance it, the actual investment of firm *i* at time *t* is determined by

$$I_{it} = \max[0, \min(I_{it}^{*}, S \times \gamma + F)] \tag{10}$$

where S is current profits with depreciation, F is external borrowing, and γ is investment rate.

6.3 Consumer products business

6.3.1 The demand of customers

In this model, we assume that the sales of an individual firm are proportional to two elements. One is the difference between the firm's market share and the average industry market share in the previous period. The other is the difference between the firm's merit of products and the average industry merit of products in the current period. Thus, the quantity of firm *i* at time *t* is defined by

$$Q_{it}^{S} = S_{T}^{S}\left[\frac{1}{n} + a(S_{i,t-1}^{S} - \overline{S}_{t-1}^{S}) + b\left(\frac{\widetilde{M}_{it}^{S}}{\sum_i \widetilde{M}_{it}^{S}} - \frac{\overline{M}_{t}^{S}}{\sum_i \widetilde{M}_{it}^{S}}\right)\right] \tag{11}$$

where S_{T}^{S} is the market size of the industry, *n* is the total number of firms in the consumer products market, and a and b are impact parameters. $S_{i,t-1}^{S}$ is the market share of firm *i* in the previous period *t-1*, and $\overline{S}_{t-1}^{S}$ is the average market share of the industry in the previous period *t-1*. $\widetilde{M}_{it}^{S}$ is the merit of product of firm i in the current period *t* and $\overline{M}_{t}^{S}$ is the industry average of the merit of products in the current period *t*. Then, profit Π is defined as revenue minus total costs minus R&D expenditure on innovation and imitation.

$$\Pi_{it}^{S} = P^{S}Q_{it}^{S} - C_{it}^{S} - r_{it}^{Sn} - r_{it}^{Sm} \tag{12}$$

where P^{S} is the market price , C_{it}^{S} is total costs, and r_{it}^{Sn} and r_{it}^{Sm} are innovative and imitative R&D expenditure, respectively.

6.3.2 The evolution of the merit of products

We define the merit of products in the consumer product business as follows:

$$\widetilde{M}_{it}^{S} = (1-\tau)M_{it}^{C} + \tau\widetilde{M}_{it}^{I} \tag{13}$$

where M_{it}^{C} is the merit of components, and $\widetilde{M}_{it}^{I}$ is the merit of integration, and τ is an impact parameter for the merit of integration ($0 \le \tau \le 1$). Thus, the merit of products consists of the merit of components and the merit of integration. The merit of integration at the next period ($\widetilde{M}_{i,t+1}^{I}$) is determined by innovation and imitation activity during the current period.

$$\widetilde{M}_{i,t+1}^{I} = \max(M_{it}^{I}, d_{it}^{Sn}\widetilde{M}_{it}^{n}, d_{it}^{Sm}M_{it}^{m}) \tag{14}$$

where d_{it}^{Sn} and d_{it}^{Sm} have the values of 0 or 1, which indicate failure or success of respectively innovation and imitation. $\widetilde{M}_{it}^{n}$ and M_{it}^{m} are the merit of integration that can be attained when the activity of the innovation or imitation succeed, respectively.

7 SIMULATION RESULTS

7.1 Simulation parameter settings

In the simulation, we average the results of 100 runs. We also observe the data for 60 periods (quarters), i.e., a 15-years' time span. We assume there are eight firms in the market: two SBM firms (components only), two SBM firms (consumer electronics only), one OCBM firm (both), and three DBM firms (both). Thus, both in the components and consumer electronics industry, the six firms of each industry compete with each other.

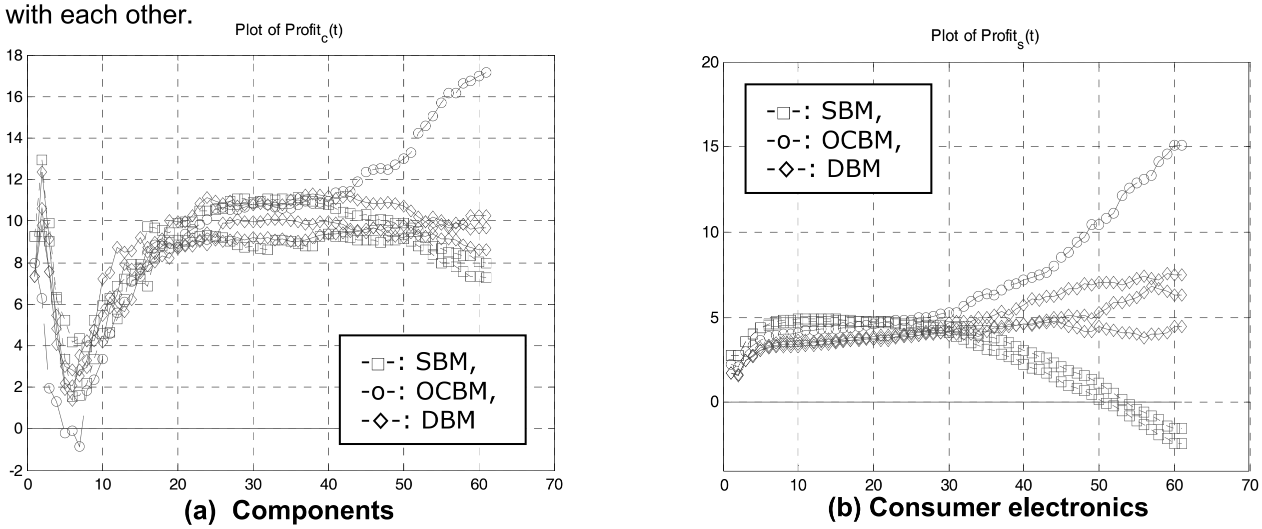

Figure 3. Effect of the large market size and high integration conditions

7.2 Impact of market size and integration environmental conditions

We compare the results of changes in two market conditions simultaneously. We investigate how the changes of the components market size and integration technology affect the performance of firms with different business models. The results are shown in Figure 3.

7.2.1 The components industry

In the components industry, the firm with the OCBM has the highest profits under the conditions of large components market and high integration technology. If the market is large, firms with the OCBM have strong performance thanks to their synergy advantages. Since the market is large, firms can make huge profits and can thereby compensate for the initial investments. Also, the firms with the OCBM produce synergy by internal purchase and outside knowledge transfer; they therefore increase their manufacturing capability and financial performance. In contrast, the firms with the SBM, which lack interactions with internal businesses, do not produce synergy and therefore generate relatively weaker performance.

7.2.2 The consumer electronics industry

In the consumer electronics industry, the firm with the OCBM has the highest financial performance under the conditions of a large components market and high integration technology. If the component market size is large enough, the firms with the OCBM overcome their costs disadvantage in the components business and the components business can have positive effect on the consumer products business through outside knowledge transfer and optimized products. If the importance of integration technology is high enough, the strong interactions between businesses allow a firm to catch up with the outside knowledge technology trends and outperform others by integrating various technologies that the combined businesses retain.

8 DISCUSSION

This study provides important insights for theory and managers. For theory, it extends the literature on success of incumbent firms by elaborating on the link between a firm's business model and the firm's success. Our research has been devoted to how a firm can increase its ability to achieve success through a specific business model framework. We suggests that the OCBM under specific environmental conditions—large market size in the components market and higher integration technology in the consumer electronics market—can be used as a framework to increase an incumbent's dynamic ability to survive and grow through its synergy effect.

In addition to these theoretical contributions, this study provides insights for managers of incumbent firms. First, conventionally, an incumbent firm with varied resources tends to extend its business by diversification. However, it often extends itself to unfamiliar areas that cannot generate synergy with existing businesses. This study shows that an incumbent firm can survive and prosper by following the OCBM. In other words, by extending itself to a related (or combined) business area and opening its core components, it produces synergy and secure dynamic capability.

Second, although a firm with the OCBM has advantages such as high manufacturing capability and integration capability while securing dynamic capability under specific environmental conditions, there is a trade-off. Mangers should be aware of the fact that a firm with the OCBM also has disadvantages and may produce negative outcomes under other environmental conditions. For example, a firm with the OCBM needs a huge investment in infrastructure and incurs high costs in management when it enters a component market. Also, even a firm that creates a business model following the OCBM may fail under the conditions of small market size or lower integration.

Although we were able to derive valuable insights from the history-friendly simulation model, our study started from the case study of Samsung Electronics. A single case can have only limited generalizability, as previous studies did (Lee and Slater, 2007). Thus, other case studies of various firms in different countries need to be investigated to verify whether our claims are applicable to the success of other firms.

Another natural limitation of this study is that it was not able to consider all other success factors such as institutional policies, decisive leadership, marketing, and human resources. While our study touches on several of these factors in tracking Samsung's history, analyzing more clearly the relationships between these factors and the business model would be another useful direction for future research.

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DIVISION OF LABOR AND COLLABORATIVE SYSTEMS IN CREATIVE INDUSTRIES: A CASE STUDY OF THE JAPANESE PC GAME INDUSTRY

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ABSTRACT

This paper uses the Japanese PC game industry as an example to clarify division of labor and collaborative systems in creative industries. The Japanese PC game industry, in which the majority of video games produced and sold are visual novels, has approximately 10% the market scale as the console game industry. Since visual novels can be produced at a cost of roughly 30 million yen per title, it is possible to create mass-produced and experimental products. Production organizations are mostly small-scale and much of the work is subcontracted. Furthermore, there are many cases in which the sales work is subcontracted to publishers and distributors. Since the industry arranges for this sort of division of labor and collaborative systems, it is extremely easy to enter.

Keywords: *Creative Industries, Ventures, Human Resource Management, Division of Labor/Collaborative Systems, Entry Barriers*

1. INTRODUCTION

Securing talent is vital to entering a creative industry, while it is at the same time the reason why doing so is difficult. Examples one could cite are designers and pattern makers in the fashion industry; editors, novelists and comics artists in the publishing industry; directors, performers and camera operators in the film industry, etc. The video game industry also requires a large amount of talent such as scenario writers, programmers, illustrators and song writers.

However, it is said that in the Japanese PC game industry – a part of the video game industry – the manner in which the division of labor and collaborative systems are arranged for individual, specialist jobs makes entry extremely simple. The purpose of this paper is to clarify the elements required for the division of labor and collaborative systems to stimulate the entry of new participants in creative industries. This paper will do so by clarifying the actual conditions in the Japanese PC game sector.

2. THE JAPANESE PC GAME MARKET

Coupled with the special characteristics of growth processes in the domestic video game industry (Koyama, 2006), the Japanese packaged PC game market has taken shape in a unique way compared to the rest of the world. According to the 2009 Digital Game White Paper, in 2008 the size of the packaged PC game market (including starter kits for online games, etc.) was 42.4 billion yen, about one-tenth the size of the 398 billion-yen market for packaged games made for game consoles.

Within the packaged PC game market, games with an R18 rating (as defined by the Japan-based Ethics Organization of Computer Software [EOCS] – which is charged with rating video games – for game software geared towards adults, which the organization recommends be sold only to those aged 18 and up due to sexual, violent or otherwise adult content) had a share of approximately 30 billion yen. Most of these R18 games fit within the so-called "visual novel" genre. (This number is based on wide-ranging interviews. Data on market size and sales of R18 games is not publicly available. Some of the few materials available are those provided by the EOCS at workshops organized by the National Police Agency.)

Despite the fact that the size of the market is only about 10% that of console games, hundreds of new visual novel games are created every year. Some of those that appear in the market are later remade for consoles or as comics, novels, animated TV shows and even animated films.

Furthermore, in some cases scenario writers have made their debuts as novelists (mainly "light novels," a category of short novels in Japanese targeted at young adults). However, the recent slump in publishing has also extended to the light novel market, leaving many people unable to transition to becoming full-time novelists. Instead they write on the side while working on game scenarios. Furthermore, without naming names, some novelists have received the Naoki Award (a prestigious award for novelists in Japan) after starting their careers as game scenario writers before becoming light novelists and then writers of novels geared toward readers in general.

In addition, game illustrators, when assigned tasks such as the illustration of commercial posters and light novels, serve the function of providing "premium" works and talent to "large-scale media large business units/major media that a greater number of people come in contact with" (Deguchi, Tanaka and Koyama, 2008).

For these reasons, the growth of the PC game industry, and in particular of visual novels, which are at the core of this industry, plays an important role in Japan's creative content industry. However, with the exception of Hichibe (2010), there has been very little research on the subject. Therefore, this paper addresses how processes and business models produce the visual novels that are currently central to the Japanese PC game industry.

3. WHAT ARE VISUAL NOVELS?

With regards to production costs, visual novels, which cost about 30 million yen each, are between "low-cost content" such as novels and comics and "high-cost content" such as cartoons and other console game genres (see Table 1 below.) When compared to other content, the main distinguishing characteristic of visual novels as merchandise is that they can be created as mass-produced and experimental products relatively cheaply. The following discusses the basic distinguishing characteristics of visual novels and their differences with other game genres as well as other media products.

TABLE 1

	Amount of Content per Unit	Production Cost	Production Threshold (Difficulty of Market Entry)
Novels (Light Novels)	Medium (200 pages/book)	Range: nearly zero to millions of yen	Low
Comics	Magazine: 20 pages (per story) Book: 200 pages	Range: nearly zero to millions of yen	Low
Visual Novels	Large (equal to multiple novels)	20-30 million yen	Medium (approximately)
Animated TV Shows	Small	15 million yen/episode; Nearly 200 million yen (for 1 series)	High (virtually all made by companies)
Other Console Game Genres	Large (roughly equal to visual novels)	Hundreds of millions of yen	High (virtually all made by companies)

3.1 Visual Novel Elements and Market Size

Hichibe (2010) gives seven elements of visual novels: "text displayed over the graphics or in a window at the bottom of the screen"; "full-screen sized graphics"; "still images of characters"; "background music and sound effects that match character emotions and plot development"; "screen effects"; "multiple scenarios with plots that diverge by choosing character actions from among options provided"; "interface in which the plot proceeds by selecting these options."

Visual novels are broadly categorized within the adventure game genre of computer games. However, compared to typical adventure games in which the player frequently selects commands in each of the game's scenes and for which the core of the game's appeal is to "solve a mystery" or "go on an adventure," visual novels have fewer options to select during the game while placing a strong emphasis on appreciating the story as it develops on the screen.

To put it more concisely, visual novels are "(multimedia) novels with illustrations and sound effects that diverge along multiple paths according to choices (made by the player)." As described in the characteristics described earlier, the minimal interactivity, by which the player presses a button to scroll the text, is used to insist or promise that the product is a "game."

3.2 Visual Novel Characteristics Compared to Other Genres and Media

Visual novels have the following characteristics when viewed in comparison to other video game genres such as action and role-playing games as well as other media content such as comics and cartoons.

The first difference is that visual novels do not necessarily require programmers to make them. It is possible to develop a game without programmers if one can combine a "full-screen graphics + text" screen layout with a game system in which "the player presses (clicks) a button to move the story forward" while arranging for an outside source to provide the engine (the program that runs the game). In fact, not only are there multiple visual novel game engines one can use by paying a licensing fee as well as free game engines available even for commercial use, there are also game engines provided by a number of publishers (described later) that developers within their corporate group may use. This is how creators (mostly scenario writers) can make games simply by adding a scenario script, thus making the threshold to visual novel production low.

The second difference is that visual novels can be produced with a small number of people and at low cost. The biggest business-side characteristic of visual novels is that they can be developed in a short timeframe and at low cost. Since many development periods range from less than a year to about a year-and-a-half and there is a small group of five to six people who are deeply involved in the development of each title, total labor costs are low. Furthermore, there is a very small number of members involved in development who belong to the developing company (at minimum one person acting as director and producer) and much of the work is subcontracted to outside vendors, thus further reducing labor costs. There are also many cases of low labor costs for full-time employees. Although there are few career studies on console game companies, Fujihara (2010) shows that in most cases, labor costs do no exceed the average annual salary of 20-year-olds (about 3.35 million yen).

The short development timeframes and low cost of visual novels are largely made possible by the lesser amount of work required compared to other video game genres. For example, they do not require level design (the work of adjusting the game's difficulty) as most games do, and, in addition, debugging takes very little effort compared to other video game genres in which characters move about on the screen.

The third difference is that when one considers that the amount of content (by which "amount" refers to "the time that the consumer will enjoy one title," with the target time for a player to play a game until tiring of it being 20 hours for a packaged video game) per "sales unit" for one book, games, or in the case of video per DVD or Blu-ray disc, video games have the largest amount of content per sales unit. For this reason, it only takes a competent producer to provide a lengthy story or expansive world that would be difficult for other media to provide and that will surely be bought on a continual basis. Recent visual novel lines said to have a "good reputation" contain two megabytes of data equivalent to roughly seven typical novels, but some products that undergo large-scale development exceed four megabytes.

4. VISUAL NOVEL DEVELOPERS

4.1 Team Formation

A development project of typical size will have around five people involved in full-time development. Standard assignments for these five will be one for the scenario, two for base artwork and two for the final artwork. Not all development team members will necessarily be employees of the developing company: in many cases subcontractors are hired. In this instance, "base artwork" refers to "the people who draw the pictures that will become the basis for characters, scenery, etc." The base artwork is normally only line drawings with no color. "Final artwork" refers to "the people who work on adding color to the base artwork so that it can appear on screen in the actual final product." Furthermore, since creating sound for a game (background music, sound effects, etc.) is highly specialized, most of this work is subcontracted to specialists, except in extraordinary circumstances in which one of the team members possesses skills to carry out two roles. In addition, in many cases there will be no managerial department for a console game, instead leaving progress management to the person in charge of the scenario or the base artwork.

4.2 Publishers Combined with Distributors and Developers Being Integrated by Publishers

Although an advantage of visual novels is that they can be developed quickly by a small group of people, there are many cases in which the small scale leaves no human resources that can be spared for sales. Therefore, in many cases developers subcontract sales to companies that act as both publishers and distributors.

Publishers take charge of providing information to magazines and online media as well as everything from sales to shipping products to the 300 or so retail outlets that handle PC games in Japan. This is how in addition to distribution, a publisher offers developers for whom the company is selling their games numerous functions: provision of development funding; development progress management; adaptable human resources shared between developers pressed to meet deadlines; provision of game engines.

5. CONCLUSION

As this paper has shown, most labor related to software development and sales in the Japanese PC game industry is subcontracted to outside vendors and the roles that development companies are required to undertake, such as overall management, are very limited. It can be said that this sort of environment has come into existence because division of labor and collaborative systems are established throughout the industry. Because of this, the circumstances are such that it is simple to enter the market, even though it is a creative industry.

The author believes that an area in need of future study is a closer examination of elements of easy-to-enter market environments in creative industries by doing similar research on other industries such as fashion, publishing and film and comparing them.

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AUDIT REVIEW AND AUDIT EFFICIENCY: AN EMPIRICAL INVESTIGATION OF CERTIFIED PUBLIC ACCOUNTANTS (CPAs) IN THAILAND

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ABSTRACT

The objective of this study is to examine the effects of audit review on audit efficiency of certified public accountants (CPAs) in Thailand. Audit review consists of attention directing, test reducing and overall reasonableness checking. In this study, 113 CPAs in Thailand are the sample of the study. With the results of the study, attention directing has a significant positive effect on audit efficiency. Also, test reducing has an important positive impact on audit efficiency. Lastly, overall reasonableness checking has a potential positive influence on audit efficiency. Accordingly, attention directing, test reducing and overall reasonableness checking distinctively become key determinants of audit efficiency. To explicitly verify the linking of the aforementioned antecedents to audit efficiency, future study needs to resort to mediating variables and moderating variables and include them in the conceptual model in order to increase the contributions and benefits of the study. Likewise, it needs to collect data from a larger sample of auditors and other auditing professions, such as tax auditors (TAs), governmental auditors (GAs), co-operative auditors (CAs), and internal auditors (IAs) in Thailand or elsewhere.

Keywords: *Audit Review, Attention Directing, Test Reducing, Overall Reasonableness Checking, Audit Efficiency*

1. INTRODUCTION

Recently, the credibility and reliability of auditors and audit professions are necessary. Auditors and related audit works have concerned with generally accepted auditing standards and other regulations. Accordingly, auditors have become significant professionals who encourage stakeholders to ensure and accept the quality and reliability of financial statements and reports. Mainly, they investigate the advantages and benefits of firms' financial information in all activities by auditing business transaction through the implementation of accounting and auditing standards, and other related regulations, rules, and laws. Thus, valuable audit methods, tools and procedures are implemented to help auditors ensure the information quality from the audited financial report. Here, audit review is proposed to become a main determinant of improving audit efficiency, audit effectiveness, audit performance, audit success, audit survival, and audit sustainability. Then, audit review plays a significant role in driving and explaining audit efficiency in the audit works.

Audit review is a valuable audit tool which auditors have implemented it in order to ensure that financial statement are complied with generally accepted accounting practices and standards. Essentially, it is the ability of auditors to ensure that the audit follows generally accepted auditing standards and firm policies and procedures (Miller, Fedor and Ramsay, 2006). Generally, it helps them provide the feedback communication for subordinate auditors and concurring partners about their audit workpaper preparation and performance of audit procedures. In this study, audit review consists of attention directing, test reducing and overall reasonableness checking. Firstly, *attention directing* refers to the ability of auditors to position and put direct resources to areas of financial statements with the highest potential for material misstatement (Cho and Lew, 2000). Secondly, *test reducing* refers to the ability of auditors to identify the scope of other substantive test in an audit area where risk and materiality are low and when auditors are satisfied with the completeness, accuracy and validity of financial statement (Cho and Lew, 2000). Thirdly, *overall reasonableness checking* refers to the ability of auditors to assess overall true-and-fair opinions via the materiality faced by standard setters who recommend operational guidelines for consistent action (Cho and Lew, 2000). With respect to the aforementioned discussions, all dimensions of audit review (attention directing, test reducing and overall reasonableness checking) are hypothesized to become main factors of determining audit efficiency. The details of the investigation of these relationships are explicitly presented.

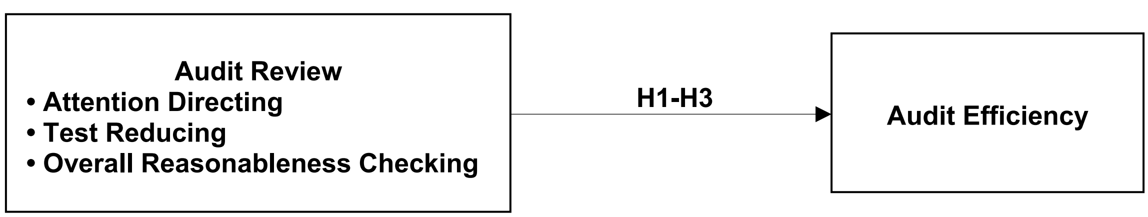
Interestingly, attention directing, test reducing, overall reasonableness checking, and audit efficiency play significant roles in this study. Hence, the objective of this study is to examine the relationships among attention directing, test reducing, overall reasonableness checking, and audit efficiency of certified public accountants (CPAs) in Thailand. Attention directing, test reducing, overall reasonableness checking are the independent variables and audit efficiency is the dependent variable of the study. The key research questions are: (1) How attention directing is related to audit efficiency, (2) How test reducing is associated with audit efficiency, (3) How overall reasonableness checking is interacted with audit efficiency, (4) Whether the aforementioned antecedents are determinants of audit efficiency, and (5) Whether the research relationships are positive.

This study is outlined as follows. Literature review of audit review (attention directing, test reducing and overall reasonableness checking) and audit efficiency is addressed and examined; and significant research hypotheses developments are presented. Next, the research methods used to test the hypotheses are discussed including sample selection and data collection procedure, variables and methods. The results of the study derived from 113 certified public accountants (CPAs) in Thailand are indicated and their reasonable discussions with existing literature supports are shown. Lastly, the study concludes by discussing implications for theories and practices, identifying limitations of the study, and providing suggestions and directions for future research.

2. LITERATURE REVIEWS ON AUDIT REVIEW AND AUDIT EFFICIENCY AND HYPOTHESES DEVELOPMENTS

The audit review-audit efficiency relationships of CPAs in Thailand are elaborately examined. Audit review includes attention directing, test reducing and overall reasonableness checking. To distinctively investigate the associations among attention directing, test reducing, overall reasonableness check, and audit efficiency, the conceptual, linkage, and research model presents the aforementioned relationships, as shown in Figure 1.

FIGURE 1
MODEL OF THE RELATIONSHIPS AMONG ATTENTION DIRECTING, TEST REDUCING, OVERALL REASONABLENESS CHECKING, AND AUDIT EFFICIENCY



Audit Review

Auditors have played significant roles in improving and increasing audit efficiency. They have implemented and utilized important audit activities, activities, practices, and strategies in wording with their duties and responsibilities. Audit review is one of the activities, practices, and strategies each of which becomes a key audit tool that helps auditors achieve audit efficiency, audit effectiveness, audit performance, audit quality, and audit success. Accordingly, audit review is considered as a critical determinant of audit efficiency. Here, it is defined as the ability of auditors to ensure that the auditing is complied with follow generally accepted auditing standards and firm policies and procedures (Miller, Fedor and Ramsay, 2006). Mainly, it helps auditors provide the feedback communication for subordinate auditors about their audit workpaper preparation and performance of audit procedures. These subordinate auditors can learn the best audit practices from the review process. Also, audit review explicitly enhances audit motivation, audit efficiency and audit performance. Thus, auditors with greater audit review are likely to gain superior audit efficiency through the valuable review process.

To distinctively improve audit outcome, audit review is a potential method that serve as a quality control mechanism in audit practice and standards (Agoglia, Hatfield and Brazel, 2009). Essentially, it ensures the adequacy of the subordinate auditors' works and to draw their conclusions based on the evidences in the workpapers. Then, audit review tends to promote more quality of audit reports via the objectivity and credibility of the source of the information. With the audit review process, auditors can reduce variance so as to obtain accuracy in multi-person decision making by considering inconsistent evidence, checking the consistency of subordinate auditors' judgments against the available evidence and generating the larger set of plausible hypotheses (Reimers and Fennema, 1999). Hence, audit review becomes important to identify the related reliability of the information. Likewise, under the control weakness environments, audit review helps auditors prevent fraudulent activities by using both important positive and negative evidence to support their assessments (Agoglia, Beaudoin and Tsakumis, 2009). In the end, they can provide specific control weaknesses that present opportunities for fraud.

In the audit review process, the interactions between auditors and subordinate auditors explicitly occur (Gibbins and Trotman, 2002). Audit review is beneficial because it focuses on continuous interactions enabling the information of interpersonal belief, expectations of the parties that condition other interactions and behaviors and advices and directions to the subordinate auditors during the audit. It is the valuable guidance to expedite field work, reduce back-end review, increase interaction among team members, and accelerate issue identification and resolution (Wilks, 2002). Auditors with more audit reviews tend to increase subordinate auditors' tendency to agree with the views of predecisionally distorting evidence. While the aforementioned discussions of audit review concentrate on the interactions between auditors and subordinate auditors, audit review is also considered as the associations between audit firm and concurring partner. In the audit firm-concurring partner aspects, audit review emphasizes the significant auditing, accounting and financial reporting matters that come to the attention of the concurring partner reviewer and the resolution of such matters prior to the issuance of the firm's audit report (Schneider, Church and Ramsay, 2003; Epps and Messier, 2007). Then, it consists of responsibilities of concurring partner, concurring partner qualifications and firm responsibilities.

Interestingly, audit review becomes a significant audit tool that helps auditors succeed, survive and sustain in the auditing profession. Auditors have outstandingly implemented the audit review process for detecting inappropriate system and conclusion errors and creating reasonable information for decision making (Dowling, 2009). In sum, audit review gains insight on business and industry, identifies potential financial and operational weaknesses, presents significant fluctuations in financial statements, determines the nature, extent and timing of substantive tests, assesses the reasonableness of specific account balances, and evaluates the fairness of financial statement as a whole (Cho and Lew, 2000). Thus, audit review is positively related to audit efficiency. Hence, it becomes a key determinant of improving and increasing audit efficiency.

In the existing literature, audit review includes attention directing, test reducing and overall reasonableness check. Firstly, *attention directing* refers to the ability of auditors to position and put direct resources to areas of financial statements with the highest potential for material misstatement (Cho and Lew, 2000). Basically, it gains insight on the business and industry, identifies potential financial and operational weaknesses and presents significant fluctuations in financial statements. It provides guidance relative to the time subordinates acquire and evaluate audit evidence can adversely affect the subordinates' judgments (Wilks, 2002). Then, attention directing is proposed to have a positive influence on audit efficiency. Secondly, *test reducing* refers to the ability of auditors to identify the scope of other substantive tests in an audit area where risk and materiality are low and when auditors are satisfied with the completeness, accuracy and validity of financial statement (Cho and Lew, 2000). It determines the nature, extent and timing of substantive tests and detects errors and misstatements in financial statements. It becomes a compensating test in lieu of tests of internal control compliance. Thus, test reducing is proposed to have a positive impact on audit efficiency. Thirdly, *overall reasonableness checking* refers to the ability of auditors to assess overall true-and-fair opinions via the materiality faced by standard setters who recommend operational guidelines for consistent action (Cho and Lew, 2000). It assesses the reasonableness of specific account balances and evaluates the fairness of financial statement as a whole. Hence, overall reasonableness checking is proposed to have a positive effect on audit efficiency. Therefore, the research relationships are hypothesized as shown below.

Hypothesis 1: The greater the attention directing is, the more likely that auditors will achieve more audit efficiency.

Hypothesis 2: The greater the test reducing is, the more likely that auditors will achieve more audit efficiency.

Hypothesis 3: The greater the overall reasonableness checking is, the more likely that auditors will achieve more audit efficiency.

3. RESEARCH METHODS

3.1 Sample Selection and Data Collection Procedure

In this study, 500 certified public accountants (CPAs) in Thailand were selected as the sample. A mail survey procedure via the questionnaire was used for data collection. The key informants were certified public accountants (CPAs) in Thailand. With regard to the questionnaire mailing, 38 surveys were undeliverable because some CPAs had moved to unknown locations. Deducting the undeliverables from the original 500 mailed, the valid mailing was 473 surveys, from which 119 responses were received. Of the surveys completed and returned, 113 were usable. The effective response rate was approximately 23.89%. According to Aaker, Kumar and Day (2001), the response rate for a mail survey, with an appropriate follow-up procedure, if greater than 20% is considered acceptable.

To test potential and non-response bias and to detect and consider possible problems with non-response errors, the assessment and investigation of non-response-bias were centered on two different procedures: (1) a comparison of sample statistics and known values of the population, such as job experience and average incomes per month, and (2) a comparison of the first wave and the second wave data as recommended by Armstrong and Overton (1977). In this regard, neither procedure showed significant differences.

3.2 Variables

In this study, *audit efficiency* is the dependent variable of the study, and it is a productivity of auditors' professional duties, activities, and responsibilities. Three-item scale was developed to measure how auditors explicitly achieve an audit outcome occurring from their professional duties, activities, and responsibilities by focusing on costs and benefits, goal achievements and success.

Attention directing, test reducing and overall reasonableness check are the independent variables of the study. Firstly, *attention directing* refers to the ability of auditors to position and put direct resources to areas of financial statements with the highest potential for material misstatement (Cho and Lew, 2000). Three-item scale was utilized to assess the degree to which auditors gain insight on the business and industry, identify potential financial and operational weaknesses and present significant fluctuations in financial statements. Secondly, *test reducing* refers to the ability of auditors to identify the scope of other substantive tests in an audit area where risk and materiality are low and when the auditors are satisfied with the completeness, accuracy and validity of financial statement (Cho and Lew, 2000). Three-item scale was utilized to evaluate the degree to which auditors determine the nature, extent and timing of substantive tests and detect errors and misstatements in financial statements. Thirdly, *overall reasonableness checking* refers to the ability of auditors to assess overall true-and-fair opinions via the materiality faced by standard setters who recommend operational guidelines for consistent action (Cho and Lew, 2000). Three-item scale was developed to measure the degree to which auditors assess the reasonableness of specific account balances and evaluate the fairness of financial statement as a whole.

For the control variable, *job experience* is likely to affect the aforementioned relationships. It may influence an auditor's competencies and capabilities through audit learning capacities and audit activities. It was measured by number of years an auditor has practiced the auditing profession.

3.3 Methods

Here, factor analysis was implemented to assess the underlying relationships of a large number of items and to determine whether they can be reduced to a smaller set of factors. The factor analysis was conducted separately on each set of the items representing a particular scale due to limited observations. This analysis has a high potential to inflate the component loadings. Thus, a higher rule-of-thumb, a cut-off value of 0.40, was adopted (Nunnally and Bernstein, 1994). All factor loadings are greater than the 0.40 cut-off and are statistically significant. The reliability of the measurements was evaluated by Cronbach alpha coefficients. In the scale reliability, Cronbach alpha coefficients are greater than 0.70 (Nunnally and Bernstein, 1994). The scales of all measures appear to produce internally consistent results; thus, these measures are deemed appropriate for further analysis because they express an accepted validity and reliability in this study. Table 1 presents the results for both factor loadings and Cronbach alpha for multiple-item scales used in this study.

TABLE 1
RESULTS OF MEASURE VALIDATION

Items	Factor Loadings	Cronbach Alpha
Audit Efficiency (AF)	0.96-0.98	0.96
Attention Directing (AD)	0.89-0.94	0.90
Test Reducing (TR)	0.85-0.91	0.84
Overall Reasonableness Checking (OR)	0.92-0.94	0.92

The ordinary least squares (OLS) regression analysis is used to test and examine the hypothesized relationships between audit review and audit efficiency of certified public accountants (CPAs) in Thailand. Then, the aforementioned variables play significant roles in explaining the research relationships. Because all dependent variable, independent variables, and the control variable in this study were neither nominal data nor categorical data, OLS is an appropriate method for examining the hypothesized relationships (Aulakh, Kotabe and Teegen, 2000). With the interest of understanding the relationships in this study, the research model of these relationships is depicted as follows.

Equation 1: $AF = \beta_{01} + \beta_1 AD + \beta_2 JE + \varepsilon$

Equation 2: $AF = \beta_{02} + \beta_3 TR + \beta_4 JE + \varepsilon$

Equation 3: $AF = \beta_{03} + \beta_5 OR + \beta_6 JE + \varepsilon$

Equation 4: $AF = \beta_{04} + \beta_7 AD + \beta_8 TR + \beta_9 OR + \beta_{10} JE + \varepsilon$

4. RESULTS AND DISCUSSION

TABLE 2
DESCRIPTIVE STATISTICS AND CORRELATION MATRIX

Variables	AF	AD	TR	OR	JE
Mean	4.38	4.33	4.13	4.26	12.50
Standard Deviation	0.53	0.54	0.72	0.61	3.92
Audit Efficiency (AF)					
Attention Directing (AD)	0.66***				
Test Reducing (TR)	0.55***	0.76***			
Overall Reasonableness Checking (OR)	0.60***	0.69***	0.78***		
Job Experience (JE)	-0.01	0.05	0.04	0.05	

***p<.01

Table 2 presents the descriptive statistics and correlation matrix for all variables. With respect to potential problems relating to multicollinearity, variance inflation factors (VIFs) were used to provide information on the extent to which non-orthogonality among independent variables inflates standard errors. The VIFs range from 1.00 to 3.32, well below the cut-off value of 10 recommended by Neter, Wasserman and Kutner (1985), meaning that the independent variables are not correlated with each other. Therefore, there are no substantial multicollinearity problems encountered in this study.

TABLE 3
RESULTS OF REGRESSION ANALYSIS[a]

Independent Variables	Dependent Variables			
	AF	**AF**	**AF**	**AF**
AD	0.67***			0.51***
	(0.08)			(0.12)
TR		0.55***		-0.07
		(0.09)		(0.14)
OR			0.60***	0.31**
			(0.09)	(0.13)
JE	-0.05	-0.03	-0.04	-0.05
	(0.10)	(0.11)	(0.11)	(0.10)
Adjusted R^2	0.43	0.29	0.35	0.46

**p<.05, ***p<.01, [a] Beta coefficients with standard errors in parenthesis.

Table 3 shows the results of OLS regression analysis of the relationships between audit review and audit efficiency. Audit review includes attention directing, test reducing and overall reasonableness checking. *Attention directing* is the first dimension of audit review and it is significantly positively related to audit efficiency ($b_1 = 0.67$, $p < 0.01$; $b_7 = 0.51$, $p < 0.01$). In the literature, attention directing is considered as positioning and putting direct resources to areas of financial statements with the highest potential for material misstatement (Cho and Lew, 2000). Auditors with greater attention directing are likely to gain insight on the business and industry, identify potential financial and operational weaknesses and present significant fluctuations in financial statements. Also, attention directing provides guidance relative to the time subordinates acquire and evaluate audit evidence can adversely affect the subordinates' judgments (Wilks, 2002). Then, it has a positive influence on audit efficiency, audit effectiveness, audit performance, and audit success. Accordingly, attention directing is a key determinant of audit efficiency in the audit works. ***Thus, Hypothesis 1 is supported.***

Test reducing is the second dimension of audit review and it is significantly positively associated with audit efficiency ($b_3 = 0.55$, $p < 0.01$). Mainly, it identifies the scope of other substantive test in an audit area where risk and materiality are low and when the auditors are satisfied with the completeness, accuracy and validity of financial statement (Cho and Lew, 2000). Auditors have implemented the review process of test reducing for determining the nature, extent and timing of substantive tests and detecting errors and misstatements in financial statements. Hence, test reducing becomes a compensating test in lieu of tests of internal control compliance. It plays a significant role in driving and explaining audit outcome. Therefore, test reducing has a positive impact on audit efficiency. Auditors with more test reducing tend to practice greater audit works and gain superior audit efficiency. ***Thus, Hypothesis 2 is supported.***

The last dimension of audit review is overall reasonableness checking. *Overall reasonableness checking* is significantly positively interacted with audit efficiency ($b_5 = 0.60$, $p < 0.01$; $b_9 = 0.31$, $p < 0.02$). With the existing literature, overall reasonableness checking definitely assesses overall true-and-fair opinions via the materiality faced by standard setters who recommend operational guidelines for consistent action (Cho and Lew, 2000). Auditors have explicitly utilized overall reasonableness checking in order to assess the reasonableness of specific account balances and evaluate the fairness of financial statement as a whole. Then, auditors with greater overall reasonableness checking are likely to gain more audit efficiency. Thus, overall reasonableness checking tends to have a significant positive effect on audit efficiency. Accordingly, it becomes a main driver of explaining audit efficiency. ***Thus, Hypothesis 3 is supported.***

5. CONTRIBUTIONS AND DIRECTIONS FOR FUTURE RESEARCH

5.1 Theoretical Contribution and Directions for Future Research

This study is intended to provide a clearer understanding of the relationships between audit review and audit efficiency. It provides unique theoretical contribution expanding on previous knowledge and literature of audit review and audit efficiency. Also, this study considers audit review in three dimensions, including attention directing, test reducing and overall reasonableness checking. For advancing the field theoretically, this study has attempted to focus on the aforementioned relationships of certified public accountants (CPAs) in Thailand. However, the need for further research is apparent. To increase the audit review-audit efficiency relationships, future research is then needed to resort to mediating variables and moderating variables and include them to the aforementioned conceptual model. Likewise, to expand the research contributions and verify the research generalizability, future research is needed to collect data from larger population and/or comparative population or from other auditing professions, such as tax auditors (TAs), governmental auditors (GAs), co-operative auditors (CAs), and internal auditors (IAs) in Thailand in order to increase the level of reliable results.

5.2 Professional Contribution

This study also helps auditors identify and justify key components that may be more critical in a rigorously auditing profession. Audit review (attention directing, test reducing and overall reasonableness checking) plays a key driver in explaining audit efficiency. Auditors should understand, manage and utilize the audit review process of attention directing, test reducing and overall reasonableness checking to improve audit efficiency, audit effectiveness, audit performance, audit success, and audit survival, and audit sustainability, in the present and future auditing profession. That is, they may put more emphasis on the aforementioned constructs than on other variations. To maximize the benefits and advantages of audit efficiency, auditors should furnish other resources for their attention directing, test reducing and overall reasonableness checking and create new opportunities in the auditing profession and environments.

6. CONCLUSION

Auditors have become significant professionals as they encourage stakeholders to ensure and accept the quality and reliability of financial statements and reports. Here, audit review is the significant audit tool that helps them provide the quality of audit report in order to achieve audit efficiency and gain audit success. Accordingly, this study aims at investigating the effects of audit review on audit efficiency of certified public accountants (CPAs) in Thailand. Audit review includes attention directing, test reducing and overall reasonableness check. Attention directing, test reducing and overall reasonableness checking are independent variables of the study and audit efficiency is the dependent variable of the study. In this study, 113 CPAs in Thailand are the sample of the study. The results of the study indicate that attention directing has a significant positive effect on audit efficiency. Also, test reducing has an important positive impact on audit efficiency. Lastly, overall reasonableness checking has a potential positive influence on audit efficiency. Thus, attention directing, test reducing and overall reasonableness checking distinctively become key determinants of audit efficiency. For the audit works, auditors have definitely implemented and utilized attention directing, test reducing and overall reasonableness checking in order to achieve audit efficiency, audit effectiveness, audit performance, audit success, and audit survival, and audit sustainability. To increase the audit review-audit efficiency relationships, future research is then needed to search for mediating variables and moderating variables and put them to the conceptual model. Likewise, future research is strongly recommended to collect data from larger population and/or comparative population or from other auditing professions, such as tax auditors (TAs), governmental auditors (GAs), co-operative auditors (CAs), and internal auditors (IAs) in Thailand in order to increase the level of reliable results.

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AN OVERVIEW OF EMERGENT ENTREPRENEURIAL ISSUES

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ABSTRACT

In today's dynamic society, entrepreneurial activities play a central and essential role in the ongoing development of an economy. Research demonstrates that entrepreneurship bring economic value and contribute to the advancement of a society. This paper attempts to give an overview of emergent entrepreneurial issues and discuss them from the environmental perspective. After defining the nature of entrepreneurship, various issues like public entrepreneurship; entrepreneurial marketing; intrapreneurship and corporate entrepreneurship; entrepreneurial ethics and social entrepreneurship; women entrepreneurs; technological entrepreneurship in the form of creative and network entrepreneurship; are covered. By increasing the awareness of these issues, value of entrepreneurship could be leveraged.

Keywords: entrepreneurship, public entrepreneurship, entrepreneurial marketing, social entrepreneurship

1. INTRODUCTION

The study of entrepreneurship has undergone significant growth for the past few decades. Simply by counting the number of features on successful entrepreneurs can verify this line of development. In today's world, people in different economic systems cannot turn their back against the surge of entrepreneurial spirit. Millions of people around the world each year engage in what is referred to as entrepreneurship. Added to this, it is believed that these entrepreneurs enable economies around the world to benefit from all of the positive effects of economic growth. Timmons and Spinelli (2003, p. 4), echo this view by stating that entrepreneurs radically transformed the economy of America and the world in the last quarter of the 20th century. Yet, reaping the benefits of entrepreneurship involves an entrepreneurial process. Such a process is dynamic in which numerous challenges are expected from the ever-changing environment.

This paper begins with a closer look at "Entrepreneurship" and then attempts to identify various entrepreneurial issues in light of environmental changes. The discussion will be based on the "PEST" model (Johnson and Scholes, 1999) as a framework to examine prominent emergent entrepreneurial issues. Specifically, trends in the arena of entrepreneurship will be preliminarily presented from the perspectives of political-legal, economic, socio-cultural and technological aspect. Issues like *public entrepreneurship*; *entrepreneurial marketing*; *intrapreneurship/corporate entrepreneurship*; *entrepreneurial ethics/social entrepreneurship*; *women entrepreneurs*, *technological entrepreneurship* are the areas to be covered.

2. UNDERSTANDING ENTREPRENEURSHIP

During the past 20 years, there has been an explosion of new interest in entrepreneurs and their activities. Hence, wide coverage of literature discussing and defining entrepreneurship can be found. There is a "classical" definition of entrepreneurship from Schumpeter (1934, cited in Arend, 1999). According to his description, entrepreneurship is the formation of a new firm that uses innovation to enter existing markets and grow by creating new demand while taking market share away from existing suppliers. Hisrich (1992) modifies the definition by stating that "entrepreneurship is the process of creating something different with value by devoting necessary time and effort, assuming the accompanying financial, psychic, and social risks, and receiving the resulting monetary rewards and personal satisfaction." In this regard, Van Praag and Versloot (2007) examines to what extent empirical evidence can collectively and systematically substantiate the claim that entrepreneurship has important economic value.

The above description is in line with the definition suggested by Zimmer and Scarborough (1998, p. 3) –

"an entrepreneur is one who creates a new business in the face of risk and uncertainty for the purpose of achieving profit and growth by identifying opportunities and assembling the necessary resources to capitalize on them". Morris, Schindehutte and LaForge (2002) further elaborate that the entrepreneurial process includes a set of activities necessary to identify an opportunity, define a business concept, assess and acquire the necessary resources, and then manage and harvest the venture. Among a number of definitions, an interesting one is explained by Shefsky (1994). The author divides the word "Entrepreneur" into three parts, i.e., *entre*, *pre*, and *neur*, and traces them to their Latin roots: *entre* means enter, *pre* means before; and *neur* means nerve center. The author highlights the importance of change substantially the business's nerve center, regardless of what form and way the business takes.

All in all, entrepreneurship is a multi-faceted phenomenon that can be viewed from different angles. Yet, Hisrich (1992) identifies some commonalties from numerous definition, they are newness, use of resources, organizing, creating wealth, and taking risks. As a matter of fact, regardless of which definition and viewpoint one takes, it is anticipated that the philosophy and ethos of entrepreneurship of the 21st century will be altered to cope with the challenges ahead.

3. EMERGENT ENTREPRENEURIAL ISSUES

3.1 Political and Legal Perspective

Entrepreneurs operate in an institutional and regulatory environment set by the government. According to Boyd and Walker (1990), the political-legal environment includes all the factors controlled by pubic authorities. It is obvious that government policies, legislation and ideology will certainly have impact on entrepreneurial activities.

Nodoushani and Nodoushani (1999) believe that it becomes fashionable for politicians and policy-makers to extol the innovativeness and job-creation potential of small business. Luke and Verreynne (2006) point out that governments are increasingly active in fostering entrepreneurial activity and associated economic development so as to balance social and economic objectives. Therefore, it is widespread that governments practice intervention and use policies or incentives to encourage citizens to be self-employed so as to alleviate the unemployment problem resulted from economic downturn or downsizing by big corporations. For instance, the Hong Kong SAR Government set up a "Self-employment Assistance Scheme" in 2001 and some other funding schemes for Small and Medium Enterprises (SMEs). Australian Government also has similar support to those unemployed by implementing Small Business Assistance Programs (SBAPs) like advisory services, training and financial assistance (Hine and Altimira, 1998). Boyle (1994) identifies such a group of people who start up their own business unwillingly as "Reluctant Entrepreneurs".

The demonstration of entrepreneurial spirit is not limited to the private sector. Governments not only encourage people to exhibit entrepreneurship, but also realize that entrepreneurial energy and behavior can be beneficial to governments themselves. This brings one emergent entrepreneurial issue – "***Public Entrepreneurship***". deLeon (1996) refers this concept as an adaptation of entrepreneurial management from business to the public sector. Such adaptation may be a response to the pressure forced upon the public sector concerning their efficiency, economy, productivity and competition. Moreover, public entrepreneurship is the source of creative and innovative ways to help the public sector to find new and expanded sources of public revenue (Bellone and Goerl, 1993).

Johnson (1996) elaborates that citizens are becoming customers, and those responsible for providing public services have become more entrepreneurial. Research has demonstrated that privatization of public services, deregulation and franchising internal services, forms of entrepreneurial management transformation in the public sector, have achieved encouraging cost savings. Nevertheless, Johnson (1996) envisions that although entrepreneurial management applications can contribute to increased economy, efficiency and even innovation, there are many values the public sector and its citizenry must guard losing. Among these are concerns about governance, the public interest and ethics. As a result, deLeon (1996) posits that introducing entrepreneurialism into a public arena should focus on those situations to which it is appropriate and necessary.

3.2 Economic perspective

Presumably, the economic environment is the most pervasive component of the external environment. Economic variables like economic growth rate, interest rate, financial markets, economic policies and competition, etc. will obviously have direct impact on business. For the past few years, apart from the financial tsunami, the global economy suffers an unstable economic landscape along with globalization. Globalization means that the number of competitors with a worldwide reach is increasing. Carlsson and Mudambi (2003) additionally point out that globalization involves not only sales in foreign markets but also use of foreign resources; these resources consist increasingly of human capital, intellectual property, and ideas, not only labor and natural resources. From these explanations, globalization implies not only keener competition, but also more "struggles" for resources like venture-fund and human capital.

In view of such aversive competitive environment, the issue of "***Entrepreneurial Marketing***" deserves entrepreneurs' particular attention. Earlier literature (e.g. Murray, 1981, cited in Boussouara and Deakins, 1999) postulated that marketing is the logical home for the entrepreneurial process in organizations. This reflects the importance of marketing from the perspective of entrepreneurial management. Hisrich (1992) points out that many surveys reveal that one of the biggest problem areas in new ventures is marketing and that many entrepreneurs have a limited understanding of marketing. Yet, marketing is one business function that must be used appropriately by the entrepreneur to launch and develop the new venture successfully.

According to Morris et. al. (2002), entrepreneurial marketing is proposed as an integrative construct for conceptualizing marketing in an era of change, complexity, chaos, contradiction, and diminishing resources, and one that will manifest itself differently as companies age and grow. This description matches the turbulent and stressful environment that most entrepreneurs are now facing. Specifically, the authors defined "Entrepreneurial Marketing" as:

> *"the proactive identification and exploitation of opportunities for acquiring and retaining profitable customers through innovative approaches to risk management, resource leveraging and value creation. The elements of entrepreneurial marketing therefore include:*

- *Opportunity-driven*
- *Proactiveness*
- *Innovation-focused*
- *Customer Intensity*
- *Risk Management*
- *Resource Leveraging*
- *Value Creation*

Accordingly, entrepreneurial marketing requires entrepreneurs to synthesize critical aspects of marketing and entrepreneurship into a comprehensive conceptualization where marketing becomes a process that firms can use to act entrepreneurially. Hisrich (1992) signifies this idea by saying both marketing and entrepreneurship should be based on customer orientation with the customer being the focal point. Conclusively, the issue of entrepreneurial marketing can shed light to entrepreneurs of the 21st century on how to out-compete worldwide rivals.

Both big business and small ventures face competitive changes. Having this line of thought, Miles and Darroch (2006) explore how large firms might leverage entrepreneurial marketing processes to gain and renew competitive advantage. They concluded that superior value can be created by strategically employing entrepreneurial marketing. As a result, entrepreneurial marketing is not the sole domain of small business. Collinson and Shaw (2001) mention that many large organizations can be entrepreneurial in their approach to marketing activities. The authors use Richard Branson's (founder of Virgin Empire) constant entrepreneurial behavior in identifying and developing market opportunities to support their argument.

Recognizing the strategic importance of entrepreneurial activities, the promotion of "***Intrapreneurship***" is one of the means to enhance an organization's competitiveness. Simply speaking, intrapreneurship refers to entrepreneurship behavior that performed in a large organization (Dailey 1988). In order to combat increasing rivals from globe, large corporations should encourage and reward their employees who prevail against the forces of bureaucracy and emerge as intrapreneurs. Nodoushani and Nodoushani (1999) also hold this view as they state that the new interest in entrepreneurship is not confined to the public and small business sectors.

Many big business corporations are also exploring ways to elicit entrepreneurship within their structures. In essence, entrepreneurship can be viewed as an organizational orientation exhibiting three underlying dimensions: innovativeness, calculated risk-taking, and proactivenss (Miller and Friesen, 1982). Bhardwaj, Sushil and Momaya (2007) coin this as "***Corporate Entrepreneurship***" by which a company can rejuvenate, revitalize and create new value through innovation, business development and renewal. Corporate Entrepreneurship is an essential element for a company to gain and sustain a competitive advantage (McGrea and Betts, 2008). By applying the knowledge-based perspective and resource-based view, Guadamillas, Donate and Sanchez de Pablo (2008) argue that the development of knowledge can strengthen the company growth through corporate entrepreneurship.

Besides competing for customers, not to mention the ability to keep the venture surviving, entrepreneurs nowadays have to "fight" for entrepreneurial finance. Compounded with the fact that entrepreneurs tend to operate an unconventional product and market areas so that there is little reliable information that one can use to indicate the potential success of an idea and an associated business concept (Wasserman, 1988), the fight for venture capital is becoming more rigorous. The entrepreneurial process like engaging in research and development activities will be hampered as a result of shortage of capital. Entrepreneurs of the 21st century should be aware of the threat that business "angles" are no longer easy to obtain. Ability to prove the venture earning promising and superior return is of utmost important. This calls for skilful crafting of financial and fund-raising strategies and managing the financial process as well as exploration of ways to form strategic alliances or joint venture partnerships.

With the rise of entrepreneurship in an unfavorable economic environment, ethical concerns go parallel to it. Hannafey (2003) identifies that entrepreneurs face uniquely complex moral problems related to basic fairness, personnel and customer relationships, distribution dilemmas, and other challenges. This suggests the issue of "***Entrepreneurial Ethics***". The author further explains that entrepreneurs today encounter uniquely challenging ethical problems and dilemma, especially when the business environment is stressful. Stakeholders are affected by entrepreneurs' choices of actions and unethical behavior. To name a few, misrepresentation of accounts, exploitation of employees, unfair treatment to customers and misleading advertising are examples. This presses a need for entrepreneurs of the 21st century to find time and perspective for focused ethical reflection. As Timmons and Spinelli (2003) highlight that high ethical standards and integrity are exceptionally important to long-term success. The topic of "***Social entrepreneurship***" receives greater attention than before and researchers (e.g. Baron, 2007; Simms, 2009) attempt to examine the social dimensions of entrepreneurship.

3.3 Socio-cultural perspective

People, including entrepreneurs, cannot escape themselves from the socio-cultural environment. On the contrary, the socio-cultural and socio-demographics forces will shape the entrepreneurial activities. Boyd and Walker (1990) define the social environment as the values, attributes and the general behavior of the individuals in a given society. Added to these, demographics, gender issues and attitudes to work and community are the elements involved. In this regard, the emergence of "***Women Entrepreneurs***" is worth noting. Shefsky (1994) posits that there is nothing inherent in gender that requires men and women to have different entrepreneurial dreams.

However, research shows that business ventures are traditionally dominated by male entrepreneurs. For instance, according to a research (Kjeldsen and Nielsen, 2000) conducted by Danish Agency for Trade and Industry, men entrepreneurs dominate totally in car trade, service stations, and any kind of repair work. Likewise, Startiene and Remeikiene (2008) argue that the number of female entrepreneurs in Europe remains lower than the one of male entrepreneurs. Moreover, Ljunggren and Kolvereid (1996) reports there is evidence that female entrepreneurs start businesses which are small in terms of revenues and employment and less profitable, and their businesses grow less than businesses started by men. Shefsky (1994) shares a similar view that women have a greater burden to convince bankers and investors and such burden reflects the playing field is not always level.

Regarding this bias, Miskin and Rose (1990, p.29), claim that the difference between male and female entrepreneurs can be explained by "the traditions of society and the persisting notion that women (more than men) carry the primary responsibilities of the home and family". This can expound why women tend to develop businesses, products, or services that deal with the home, as echoed by Shefsky (1994), which is their expertise. The founding of Mrs. Fields Cookies can best illustrate this point. Actually, her business idea came from serving cookies to her husband's clients in her home.

Despite there are a number of studies demonstrating the existence of "chauvinist myth" and implying females are in a disadvantaged position, this cannot deter the growth of women entrepreneurs. In times of equal opportunities and improved educational standard, nowadays women-owned enterprises have been a driving force in the revitalization of economy. Moreover, female business founders seem to spend much time building social support and collecting information prior to starting a new business (Ljunggren and Kolvereid, 1996). Birley (1989) comments that women are beginning to feel more confident about their own skill as entrepreneurship among women becomes more common in society. Sharma (1999) proves this by quoting a research result reported by the National Foundation for Women Business Owners (1998) in the book "*The Harvard Entrepreneurs Club*". The research found that, from 1987 to 1996, the number of American companies owned by women increased by 78 percent with tremendous employment and sales growth by 183 percent and 236 percent respectively.

As a matter of fact, the emergence of women entrepreneurship have been brought into sharper focus, which has led to a number of research, where male and female entrepreneurs have been compared. According to Kjeldsen and Nielsen (2000), they conclude from other international research that there are unambiguous similarities between female and male entrepreneurs. However, Ljunggren and Kolvereid (1996) put forward a supported hypothesis that men and women are motivated by different factors when they start a new business. Therefore, to better understand the phenomenon of entrepreneurship, population of women need to be included or studied separately in both academic and government investigation. Hurley (1999) therefore argues that feminist theories may help the development of entrepreneurial theories and more case studies should have been done on women entrepreneurs. Based upon the socio-demographic attributes of women entrepreneurs, Rani and Rao (2007) suggest formulating strategies for supporting women entrepreneurship in a sustained manner.

Apart from the emergence of women entrepreneurs, there are some changes in the demographic make-up of entrepreneurs. The new millennium is likely to involve more young entrepreneurs. With the help of speedy information flow, young people are exposed to a lot of stories on successful entrepreneurs. Henderson and Robertson (2000) assert that if a young person's social environment is conducive to entrepreneurship and the individual has positive personal experience of a business venture, he or she may well be drawn towards entrepreneurship. The authors further elaborate that future working environment will depend heavily on the creativity and individuality of the young in addition to entrepreneurial education. Research findings show that entrepreneurial development is taking place across both gender lines and age levels.

3.4 Technological perspective

Technology has a leapfrog improvement for the past decade and hence many ventures are established based on technological advancement. Successful innovation is dependent upon the existence of entrepreneurship to enable the introduction of new technologies into the market, as such; the demand for "***Technological entrepreneurship"*** has been growing (Yu, Stough and Nijkamp, 2009). Boyd and Walker (1990) identify that technology is a major source of change in today's world, which has an impact on the society.

Cited from Zahra and Neubaum (1998), "high technology industries are fertile grounds for the new companies and the pursuit of entrepreneurial activities." Unlike the traditional low-technology industries, there is abundance of opportunities to innovate and take risks (Zahra and Neubaum, 1998). Yet, because of the rapid and dynamic pace of technological change, Covin and Covin (1990) advocate that feeling pressured because of adverse environmental conditions, managers of high technology new ventures are likely to find alternative ways to counteract these troubling conditions. As a result, in light of drastic technological changes as the strong driving force, entrepreneurs of the 21st century will be compelled to step towards "***Creative Entrepreneurship***" (Nijkamp, 2003). The author adds that a modern entrepreneur tends to become increasingly a creative network operator and manager. Further, associated closely with high technology is the era of information network and knowledge. It is well known that competitive advantages for an entrepreneur have shifted from those who had access to raw materials to those who have access to information. This view is sustained by Henderson and Robertson (2000) that the 21st century post-industrial society is likely to be characterized by a knowledge-based environment dominated by information technology and networking with less locationally-dependent and more fragmented business operations.

Castells (1996, cited in Nijkamp, 2003) also believes that there is an emergence of interwoven global networks, which allow for global interaction and communications, a process through which market areas may obtain a worldwide coverage. Nowadays, communication potential and knowledge are seen as critical success factors for both the "global entrepreneur" (Nijkamp, 2003) and "transnational entrepreneurs" (Drori, Honig and Wright, 2009). Coupled with Henderson and Robertson's work (2000), it can be concluded that the physical domain or boundaries of business enterprises become blurred and that the business expansion can be based on "***Network Entrepreneurship***" rather than merely physical size. According to Nijkamp (2003), a network entrepreneur needs specific skills in terms of information processing, international access, alertness to world market developments and search for partnerships. *Network density* and *diversity* are also areas of concern. It seems that entrepreneurs of the 21st century need to make heavy use of personal connections and knowledge network in order to enhance the effectiveness of the entrepreneurial process.

A case of "nurse entrepreneurs" can exemplify the point. Based on the article "Technology and the Potential for Entrepreneurship" (Simpson, 1997), many nurses step beyond the boundaries of traditional practice and create their own business or service centers. Those "nurse entrepreneurs" are comfortable with technology and expertise in information systems. Technology can provide them with means for a great many entrepreneurial opportunities by using computer-based patient records, providing consulting services and sharing their "intellectual property", i.e. their knowledge of systems and clinical applications. These give many nurses an entrepreneurial bent. When looking further into modern economies, with the facilitation of technology, SOHO (Small Office – Home Office), and home-based operation and business may become common practices. As evidenced by Standen's (1998) findings, there is a rapid growth in home-based businesses (HBBs) as a result of the potential of new information and communications technology.

Regarding intellectual property, it is of particular importance to entrepreneurs in the high-technology field. Owing to the easy access to information and knowledge, innovations are easily imitated by competitors. Consequently, in order to protect the competitive advantages, entrepreneurs of the 21st century need to think of some *isolating mechanisms*. According to Besanko, Dranove and Shanley (1996, cited in Rebernik and Mulej, 2000), isolating mechanisms can basically be sorted into two types: "impediments to imitation" and "early mover advantage". Impediments to imitation prevent actual and potential competitors from imitating resources and competencies that form the competitive advantages of a business system. Early mover advantages, on the other hand, enhance the business system's competitive advantage. Based on the authors' classification, elements involved in these two strategies impediments are as follows:

Impediments to imitation	Early mover advantages
Legal restriction	Learning curve
Superior access to inputs or customers	Network externalities
Market size and scale economies	Reputation and buyer uncertainty
Intangible barriers to imitation	Buyer switching costs

It is obvious that entrepreneurs have many mechanisms to protect and defend the stream of income reaping from business opportunity spotted and exploited, but a *requisite holism* (i.e. carefully and with versatility) approach would achieve the purpose better (Rebernik and Mulej, 2000).

4. CONCLUSION

As Arend (1999) puts it, the emergence of entrepreneurship is a continuous and important phenomenon in modern economies. Heller (1998) reiterates that the ability to create the future is the greatest contribution that the winning entrepreneur makes to the economy and to society. However, from the above discussion, being a successful entrepreneur is not an easy task.

Environmental changes from various components always pose a lot of challenges to both existing and potential entrepreneurs. According to Heller (1998), entrepreneurs need more and better skills than ever before to navigate the threats and opportunities of the end-century.

This conclusion is in line with Paleno and Klenier's (2000) argument that, "the future of entrepreneurship within a given country is dependent upon the entrepreneur's willingness and ability to combine personal values with market potentials, financial resources, and business efficiency." Yet, the study of entrepreneurship is an area of rich research possibilities for people to fully understand the changing landscape of the "entrepreneurial hero".

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ERP IMPLEMENTATION SUCCESS, SOCIAL CAPITAL, INTELLECTUAL CAPITAL AND INNOVATION CAPABILITY ON ORGANIZATION PERFORMANCE IN THAI FIRMS

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ABSTRACT

The purpose of this research investigates the relations between ERP implementation success, social capital, intellectual capital, and innovation capability on organization performance. Data were collected from 263 CEO Thai firms to test the model; measurements of constructs both the validity and reliability use the Ordinary Least Squares (OLS) regression analysis to test the hypotheses relationship and estimate factors affecting the organization performance. The results show the ERP implementation success has positive relationships with the social capital and organization performance; the social capital is a positively significant on intellectual capital, innovation capability; the intellectual capital is a positively significant on innovation capability; and intellectual capital, innovation capability are positively significant on organization performance. Thus, contributions and suggestions are also provided for further research.

Keywords: *ERP implementation success, Social Capital, Intellectual Capital, Innovation Capability and Organization Performance*

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1. INTRODUCTION

Recent changes in the business environment namely deregulation, privatization, globalization and consequently increased competition, have increased the need for companies to search for new ways to survive and succeed (McDaniel, 1997). Enterprise resource planning (ERP) systems impose great challenges on the adopting organizations. They require substantial material and managerial resources, a redesign of business processes and patterns of work flow, and a process of mutual adaptation of the system and organizational structure. Enterprise resource planning (ERP) systems as configurable information systems packages that integrate information and information-based processes within and across-functional areas in an organization (Eisenhardt, 1989). In information systems (IS) area, implementation is defined as the process that begins with the managerial decision to install a computer-based organizational information system and is complete when the system is operating as an integral part of the organization's information system (Burns and Turnipseed, 1991). ERP is probably the most rapidly growing system area in operations today. Thousands of companies have implemented or are in the process of implementing an ERP system. By integrating business processes across the organization through a centralized common database, ERP differs from earlier IS in its capacity to disseminate real-time information and increase organizational agility. However, this large scale of integration makes ERP implementation a highly complex and inter-dependent task. Also, ERP systems are commercial packages that are purchased or leased from software vendors. Their life cycle is different from that of traditional IS, and adopting organizations sometimes forgo or curtail the analysis of current information requirements and business processes. As a result, ERP systems may not fit the organization's idiosyncratic needs. In addition, embedded in the ERP packages are best business models that their designers believe to represent best practices. While ERP systems provide the organization the windows of opportunity for strategic changes, these systems' deployment requires large-scale human and organizational changes.

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The purpose of this research is to gain a deeper understanding of the ERP implementation success phenomenon in Thai Firms.

In the next section, the conceptual framework is presented, and a set of testable hypotheses is proposed. Methods of the study are then introduced, which include information about the sample, study measures, data analysis, and test results. Following a discussion of the results, implications and limitations are offered.

2. RELENANT LETERATURE ON INFORMATION SYSTEM OUTSOURCING STRATEGY AND AUDIT QUALITY IN THAI AUDIT FIRMS

The conceptual model shown in Figure 1 was drawn based on the literature review and uses the Contingency theory and then verifies the validity of the proposed contingency model and the recommended strategies by analyzing case studies of outsourcing among Thai firms. Based on the ERP literature and the IS research model proposed by Ives et al., factors that affect successful ERP implementation have been identified in this research. From DeLone and McLean' IS success model the dependent variables that measure ERP implementation success is defined.

In this study, since the use of an ERP system is required, the previous measures of system quality, information quality, and use become less useful. That means whether the quality of the system itself and the information outputs are satisfying or not and whether users want to use the system or not, users have no choice but to accept and use the IS. The researcher proposes the following research propositions serving as guidelines for this research.

Contingency theory argues that organizational effectiveness results from a firm’s ability to make choices that promote appropriate fit, or consistency, across its strategy, structure, culture and processes (Miles and Snow, 1984). Taken together, these lenses suggest an intriguing paradox: ERP systems fit best within mechanistic, clockwork organizations dominated by routine, highly programmed technologies and operations (Miller et al., 1991), yet it is the non-routine learning and change processes found in complex, self organizing systems that enable firms to create distinctive competitive advantages from ERP outputs. In other words, settings for which ERP systems are best suited in terms of structure, culture and process fit are precisely the type of venues that are least likely achieve long-term strategic benefits from its implementation. Conversely, organizations that have the structure, culture and processes best able to capitalize on the outputs from ERP systems present the poorest fit with ERP characteristics and requirements.

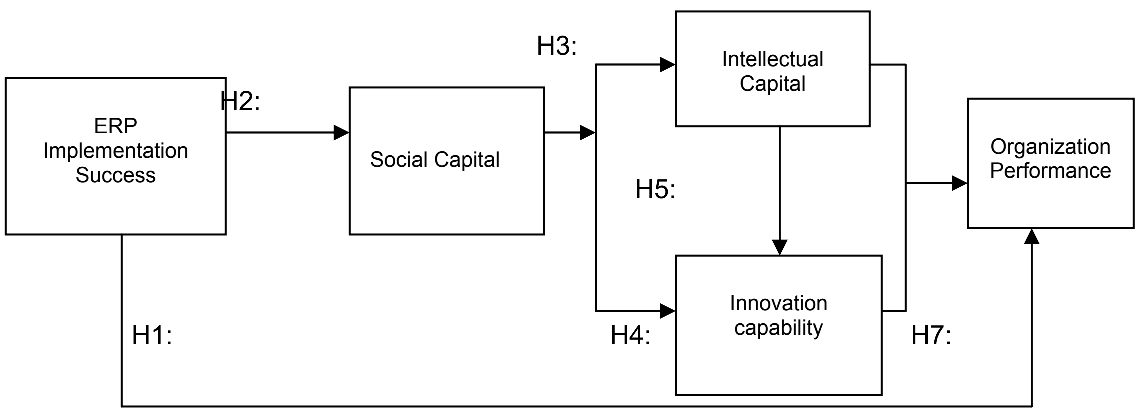
2.1 ERP implementation success and organization performance

Recent chronicles of ERP implementation efforts across a variety of industries suggest that few firms have assessed the long-term strategic and organizational consequences of resolving operational concerns by installing ERP systems (Bingi et al., 1999; Davenport, 1998, 2000; Martin, 1998; Schneider, 1999). ERP generally requires a firm to modify its business practices to conform to software mandates. This, in turn, changes patterns of interaction and often the culture of a firm. If, as some have argued (e.g., Kogut and Zander, 1992, 1996; Conner and Prahalad, 1996), a firm’s information system shapes its processes, culture and social system, then ERP implementation has significant implications that go far beyond operational efficiency. Moreover, since competitive advantage requires asymmetric distinctiveness across firms (Porter, 1996), if ERP achieves operating effectiveness by using a common IT solution across an industry, long-term competitiveness may be jeopardized by conventional ERP implementation. The path that led to this situation is not difficult to diagnose. Manufacturing firms face mounting pressures to reduce costs and simultaneously improve market agility and increase product variety (Ghoshal, 1987).

The hypotheses for using ERP implementation success as a foundation for social capital and intellectual capital formation are introduced. ERP do offer a platform for enhancing a firm's social and intellectual capital in way that can lead to effective and sustained advantages in the knowledge economy. In this paper was developing a set of hypotheses linking ERP implementation success with three dimensions of social capital, intellectual capital, and innovation capability and organization performance.

FIGURE 1 CONCEPTUAL MODEL

ERP IMPLEMENTATION SUCCESS, SOCIAL CAPITAL, INTELLECTUAL CAPITAL ON ORGANIAZATIOAL PERFORMANCE IN THAI FIRMS.



A growing number of firms try to resolve these challenges by implementing enterprise resource planning (ERP). This technology reshapes a firm's information processing, workflow, design and interpersonal interactions in fundamental ways. ERP applications affect everything a firm does. These integrated software packages provide real-time links across all of a firm's activities from order capture to accounting to procurement to material resource planning to production scheduling to human resource management to after-sales service. The functionality is so broad that a company typically replaces all of its legacy systems (autonomous software designed for specific functional areas) with a consolidated, integrated software system. A crucial question, then, is what can be done to ensure that ERP (or any widespread IT solution) enhances a firm's long-term competitive position, rather than improves operations at the expense of long-term strategic distinctiveness (Lepak and Snel, 1999). This paper examines the strategic and organizational implications of using ERP technology to improve operating effectiveness and proposes ways to augment the benefits of ERP by creating platforms for organizational distinctiveness linked to social and intellectual capital. We begin with a brief overview of ERP and its intended strategic implications. We then use criteria offered in literature on the resource-based view of the firm (Amit and Schoemaker, 1993; Grant, 1991; Barney, 1991, 1995; Hamel and Prahalad, 1993, 1994) to assess the extent to which ERP itself meets the criteria of a resource having exceptional strategic utility. This is an important issue because as Barney (1991), Stalk et al. (1992) and others argue, a firm's unique bundle of strategically important resources and capabilities, and the firm-specific ways in which these internal assets are applied, often distinguish companies with sustained high performance from firms with less enviable track records. Next we use the emerging literature on chaos and complexity (Levy, 1994; Stacey, 1995, 1996; McDaniel, 1997; Eisenhardt, 1989; Wheatley, 1994) to evaluate the type of organization that ERP systems promote. This is a crucial issue because organizations that are able to function as complex, adaptive systems are better suited to compete in the high-velocity and turbulent knowledge economy. Even highly competent firms may be ineffective in competitive markets that require efficient agility if their internal processes do not allow them to develop new competencies quickly and change their behavior as they learn (Dierickx and Cool, 1989; Teece et al., 1997). Based on these evaluations, it becomes apparent that an ERP system itself cannot provide a sustainable source of competitive advantage. Therefore, posit the hypotheses as below:

H1: ERP implementation success is positively associated with the Organization performance.

2.2 ERP implementation success and Social Capital

Social capital to describe a community network of strong, personal relationships that cut across interests and time. Social capital provides a basis for trust, cooperation and collective action. Social capital can increase a firm's efficiency (Burt, 1992; Putnam, 1993) and its innovativeness (Fukuyama, 1995; Putnam, 1993). Social capital is a source of tacit knowledge, shared values and diffused leadership which are needed to compensate for the liabilities of loose coupling (Orton and Weick, 1990).First, the structural dimension is the configuration of impersonal links between people and units. ERP data flows and network connections present a tremendous opportunity to enhance a firm's structural basis for building social capital. Second, the relational dimension is the personal relationships people develop with each other across a history of interactions. These relationships include emotional responses such as respect and friendship that influence individual behavior. ERP presents both advantages and disadvantages in terms of building a relational base for social capital development. Third, the cognitive dimension of social capital is the knowledge and language system providing shared representations, meanings and interpretations among members of a network (Nahapiet and Ghoshal, 1998; Weick, 1995). The dramatic change experience prompted by ERP implementation is both personal and widely shared across a firm (Davenport, 2000). This experience provides a powerful foundation for developing the cognitive dimension of social capital. Therefore, posit the hypotheses as below:

H2: ERP implementation success is positively associated with the Social capital.

2.3 Social capital, Intellectual capital and Innovation capability

ERP combines data that was previously tacit individual and collective knowledge with documented know-how and makes this enhanced understanding of the firm explicit and widely accessible (Spender, 1996). By increasing the opportunities for information combination and exchange in this way, the cognitive dimension of social capital contributes directly to enhancing a firm's intellectual capital (Kogut and Zander, 1992; Nahapiet and Ghoshal, 1998). As Pfeffer (1995) argues, intellectual capital is a powerful tool for achieving a sustained competitive advantage. In addition, intellectual capital is the source of distinctive, tacit knowledge that transforms the data transactions that are universally available to implementers of ERP into exploitable sources of competitive advantage (Lee et al., 1996).

Innovation capability , innovativeness refers to a willingness and a tendency to engage in , and support creativity and experimentation , introducing new products / services , and novelty , technological leadership and R&D in developing new processes (Lumpkin and Dess , 2001) It is the product and service orientation with an emphasis on development and innovation in technology , including new product development , product improvements , and new production methods to new ideas and encourage individual innovative attitudes or creative ideas (Hurley and Hult , 1998).Innovative cultures in an organization emphasize learning , participative decision making , support and collaboration , and power sharing . Also, innovativeness is defined as the capacity to introduce new products and services, new production processes, new structures, and new administrative systems in the organization (Hult, Hurley, Knight, 2004). A firm's ability to adapt and develop core strategies is a major factor in its operations. However, the characteristics of ERP do offer a platform for enhancing a firm's social and intellectual capital in ways that can lead to effective and sustained advantages in the knowledge economy (Nahapiet and Ghoshal, 1998). We end with a series of propositions linking ERP system implementation with social capital, intellectual capital and competitive advantage. Contingency theory and the importance of social and intellectual capital. Therefore, posit the hypotheses as below:

H3: Firms that leverage the Social capital enabled by ERP to increase their Intellectual capital.

H4: Firms that leverage the Social capital enabled by ERP to increase their Innovation capability.

H5: Firms that leverage the Intellectual capital enabled by ERP to increase their Innovation capability.

2.4 Intellectual capital, Innovation capability and Organization performance

In this study, we posited the successful deployment of ERP system would contribute to the performance of a firm in multiple ways. Much consideration was given to data issues in the process of designing this model and the experimental measures. We decided to use perceptual ratings of organizational performance for two reasons. First, we required data concerning the intangible aspects of organizational performance (Scott, Kaindl, 2000). As traditional measures alone would be inadequate to identify these effects, the use of perceptual inputs allowed us to assess intangibles. Second, quantitative data was not available for some of the factors, of international divisions. While the parent companies of the multi-nationals were public and thus listed on the stock exchange of their home country with audited financial statements and aggregated data available to the public, the financial statements of the international subsidiaries were not available. Also, we had reviewed the financial data of Thailand listed companies and the annual reports of some to determine whether they could provide quantitative data at the required levels. We found that the financial statements made available performance data only in aggregate form, representing data from multiple revenue sources. Much of this data may also have been inflated by income and profit from a miscellany of economic activities other than their primary business; e.g., Thailand -listed companies are often dominated by overseas Chinese families and engaged in real estate investment, resulting in significant financial gains above the earnings from manufacturing. Thus, we found it too risky to attempt to determine the performance data of their primary business operations. Our decision to use perceptual inputs would therefore avoid the confounding effects of inflated performance data. Dess and Robinson made similar comments about the availability and accuracy of the financial data of individual divisions of multiindustry conglomerates. They suggested that the use of perceptual inputs was acceptable though reliable quantitative data would be preferred when available. Organizational performance includes measures of multiple dimensions, such as profitability, sales growth, expansion of market share, and customer satisfaction (goodwill). The organizational performance construct in our model was intended to capture perceptual ratings not only on the financial aspects but also in other dimensions; thus, it included questions of profitability relative to competitors, sales growth, customer satisfaction with products or services purchased, customer retention rate, and overall organizational performance.

H6: Intellectual capital is positively associated with the Organization performance.

H7: Innovation capability is positively associated with the Organization performance.

3. RESEARCH METHODS

3.1 Sample Selection

To accomplish our research objectives, we collected data from CEO Thai Industrial Standards Institute Ministry of Industry. A mail survey was used for data collection. The questionnaire was sent to 500 Thai firms in Thailand. The questionnaires have been shown in previous research to be knowledgeable key informants about information concerning innovation capability. Deducting the undeliverable from the mailing was 500 surveys. With regard to the questionnaire mailing, 29 surveys were undeliverable because some firms were no longer in business or had moved to unknown locations. Deducting the undeliverable from the original 500 mailed, the valid mailing was 471 surveys, from which 267 responses were received. Of the surveys completed and returned, only 263 were usable. The effective response rate was approximately 55.94%. According to Aaker, Kumar and Day (2001), the response rate for a mail survey, without an appropriate follow-up procedure, is less than 20%. Thus, the response rate of this study is considered acceptable. Following Armstrong and Overton (1977), we tested for differences between early and late respondents. We found no significant differences, indicating that non response bias was not a major problem in our data.

3.2 Questionnaire Design and Measurements

3.2.1 Questionnaire Design

The design of the questionnaire of this study is adopted several from sources of data, including previous instruments developed by other researchers and the research framework developed from the relevant literature. Most of the questions were in closed form using a Likert-type scale, all scored on five-point numerical scale from 1=strongly disagree to 5=strongly agree. A half page empty space at the end of the questionnaire is provided to give respondents an opportunity to express anything else that they would like to add. Before using the data collected, the pre-testing was undertaken (Hunt et al., 1982, Presser & Blair, 1994, Babbie, 2005). Pre testing was intended to identify whether there were any ambiguous or unanswerable questions, to identify whether the wording or layout could be adjusted, whether the meaning the researcher believed was associated with a question, and how others perceived it. A draft of the questionnaire was sent to academics at University of Mahasarakham to examine and approve the construct validity. Academics are served as respondents and assist in testing the instrument; comments and suggestions were use to revise the instrument in terms of readability, validity.

3.2.2 Measurements

The design of the questionnaire of this study is newly developed from several sources of data, including previous instruments developed by other researchers and the research framework developed from the relevant literature.

All of the questions are in closed form using a Likert-type scale. All are scored on five-point numerical scale from 1=strongly disagree to 5=strongly agree. The measurement analysis emphasizes explanation of the reliability and validity of new instruments for measuring these constructs.

3.2.2.1 Dependent Variables

Organizational performance was measured via six items that the An average computed of five items that elicited respondent's perceptual ratings on (a) customer's satisfaction on products and services, (b) customer retention rate, (c) sales growth rate, (d) profitability of company, and (e) overall competitive position

3.2.2.2 Independent Variables

ERP implementation success Based on Delone and McLean's (1992) IS success model and ERP literature, user satisfaction, individual impact, organizational impact, and intended business performance improvement are selected as ERP systems implementation success measures.

Social Capital was measured using six items to test the involved reading the interviews and categorizing the text into one of the a priori codes used in the social capital literature. These were clustered into one of three major dimensions: structural, relational, and cognitive.

Intellectual Capital was measured using six items to test the six value metric constructs in the model described above were operationalized on the basis of the following domain descriptions, from sources in the intellectual capital literature, particularly Roos et al. (1997) and Bontis (1998, 2002), but also taking cognisance of the work of Edvinsson and Malone (1997) and others. Many of these constructs have their origins in the work of Hamel and Prahalad (1994) and Nonaka (1991). The domains of the human aspects are described first, then those of the structural aspects. Human intangible value to competence, attitude and mental agility. Structural intangible value to relationships, organization and renewal and development**.**

Innovation capability was measured using six items to test the refers to a willingness and a tendency to engage in , and support creativity and experimentation , introducing new products / services , and novelty , technological leadership and R&D in developing new processes (Lumpkin and Dess , 2001)

3.3 Validity and Reliability

An assessment of the reliability of the constructs and the validity of the instrument were conducted to establish the reliability and validity of the instrument.

Reliability; the most common measure of scale reliability is Cronbach's Alpha. Prior to conducting factor analysis on the data, it was considered useful to check the reliability of the scale used to confirm that the scale used consistently reflects the scale they are measuring (Field, 2005).

Validity; to identify any remaining issues the test instruments pre-testing was undertaken (Hunt et al., 1982, Presser & Blair, 1994, Babbie, 2005). Pre testing was intended to identify whether there were any ambiguous or unanswerable questions, to identify whether the wording or layout could be improved, whether the meaning the researcher believed was associated with a question was how others perceived it.

Factor analysis was firstly utilized to investigate the underlying relationships of a large number of items and to determine whether they can be reduced to a smaller set of factors. The factor analyses conducted were done separately on each set of the items representing a particular scale due to limited observations. With respect to the confirmatory factor analysis, this analysis has a high potential to inflate the component loadings. Thus, a higher rule-of-thumb, a cut-off value of 0.40 was adopted (Nunnally and Berstein, 1994). All factor loadings are greater than the 0.40 cut-off and are statistically significant. The reliability of the measurements was evaluated by Cronbach alpha coefficients. In the scale reliability, Cronbach alpha coefficients are greater than 0.70 (Nunnally and Berstein, 1994). The scales of all measures appear to produce internally consistent results; thus, these measures are deemed appropriate for further analysis because they express an accepted validity and reliability in this study. Table 1 shows the results for both factor loadings and Cronbach alpha for multiple-item scales used in this study.

TABLE 1
RESULTS OF MEASURE VALIDATION

Items	Factor Loadings	Cronbach Alpha
Organizational performance	0.86 – 0.96	0.96
ERP implementation success	0.83 – 0.95	0.95
Social Capital	0.88 – 0.97	0.92
Intellectual Capital	0.86 – 0.93	0.90
Innovation capability	0.87 – 0.94	0.92

3.4 Statistic Test

This research uses the Ordinary Least Squares (OLS) regression analysis to test the hypotheses and estimate factors affecting audit performance. Because both dependent and independent variables in this study were neither nominal data nor categorical data, OLS is an appropriate method for examining the hypotheses relationships (Aulakh, Kotabe and Teegen, 2000). In this research, the model of aforementioned relationships is as follows:

Equation 1: $OP = ß_{01} + ß_1 ERP + e$
Equation 2: $SC = ß02 + ß_2 ERP + e$
Equation 3: $IC = ß_{03} + ß_3 SC + e$

Equation 4: INC = $ß_{04} + ß_4 SC + e$
Equation 5: INC = $ß_{05} + ß_5 IC + e$
Equation 6: OP = $ß_{06} + ß_6 IC + ß_7 INC + e$

Where as:
OP = Organizational performance; ERP= ERP implementation success; SC= Social Capital; IC = Intellectual Capital; INC = Innovation capability

4. RESULTS AND DISCUSSION

The descriptive statistics and correlation matrix for all variables are shown in Table 2. The results of OLS regression according to hypotheses are estimated as shown in Tables 3.

Table 2 shows the descriptive statistics and correlation matrix for all variables. With respect to potential problems relating to multicollinearity, variance inflation factors (VIF) were used to provide information on the extent to which non-orthogonality among independent variables inflates standard errors. The VIFs range from 1.01 to 2.15, well below the cut-off value of 10 recommended by Neter, Wasserman and Kutner (1985), meaning that the independent variables are not correlated with each other. Therefore, there are no substantial multicollinearity problems encountered in this study.

TABLE 2
DESCRIPTRIVE STATISTICS AND CORELATION MATRIX

Variables	OP	ERP	SO	IC	INC
Mean	3.88	3.86	3. 85	3.82	3.88
Organizational Performance					
ERP Implementation Success	0.76**				
Social Capital	0.78**	0.77**			
Intellectual Capital	0.75**	0.75**	0.76**		
Innovation Capability	0.74**	0.74**	0.73**	0.75**	

* p<.05, ** p<.01

Table 3 presents the results of OLS regression of the relationship between the ERP implementation success and Organizational performance via the mediating influences of Social Capital, Intellectual Capital, and Innovation capability.

The first set of research hypothesis focused on the relationships between the ERP implementation success and Organizational performance (Hypothesis 1) are shown in Table 3. The findings indicate that the ERP implementation success (H1: b_1=0.66, p < 0.01) has a positive and significant effect on Organizational performance. Therefore, Hypothesis 1 is supported.

The second set of the hypotheses concentrated on the relationships between the ERP implementation success and the Social Capital (Hypothesis 2) in Table 3. The evidence indicates that the ERP implementation success (H2: b_5= 0.62, p < 0.01) has a positive and significant effect on Improve Social Capital. Therefore, Hypothesis 2 is supported.

TABLE 3
RESULTS OF OLS REGRESSION ANALYSIS [a]

Independent variables	Dependent Variable			
	OP	**IC**	**INC**	**OP**
ERP Implementation Success	0.66*** (0.04)			
Social Capital	0.62*** (0.04)	0.65*** (0.02)	0.64*** (0.04)	
Intellectual Capital			0.62*** (0.02)	0.74*** (0.10)
Innovation Capability				0.76*** (0.10)
Adjusted R^2	**0.66**	**0.68**	**0.67**	**0.68**

*** p<.01, [a] Beta coefficients with standard errors in parenthesis.

The third set of research hypotheses states that the Social Capital is expected to positively drive the Intellectual Capital and Innovation capability; the Intellectual Capital is expected to positively drive the Innovation capability (Hypotheses 3-5) in Table 3. Social Capital has a strong influence on Intellectual Capital (b_2= 0.65, p < 0.01); Social Capital has a strong influence on Innovation capability (b_3= 0.64, p < 0.01). Therefore, Hypotheses 3 - 4 are supported and Intellectual Capital has a strong influence on Innovation capability (b_2= 0.62, p < 0.01). Therefore, Hypotheses 5 is supported

The fourth, set of research hypotheses states that the Intellectual Capital; Innovation capability are expected to positively drive the Organizational performance (Hypothesis 6-7) in Table 3. Intellectual Capital has a strong influence on Organizational performance (b_2= 0.74, p < 0.01); Innovation capability has a strong influence on Organizational performance (b_2= 0.76, p < 0.01). Therefore, Hypotheses 5 and 6 are supported

5. CONTRIBUTIONS

5.1 Theoretical Contributions

The research contributes to the extension of contingency theory and believes that if firms see ERP as an enabling technology rather than as an IT solution, they are more likely to create the organizational capabilities that encourage them to change ERP to conform to new insights and knowledge gained from ERP-generated information. This, too, we believe is a potential source of competitive advantage. By understanding how ERP information systems shape organization systems and by observing the competitive outcomes of ERP use, we can better understand and manage the organizational and strategic consequences of enterprise resource planning systems.

5.2 Practical Implications

ERP systems impose great challenges on the adopting organizations. They require substantial material and managerial resources, a redesign of business processes and patterns of work flow, and a process of mutual adaptation of the system and organizational structure. In addition, ERP implementation involves many employees and external parties - the project manager, project team members (employees from various business units), internal IT specialists, vendors, and consultants. It also includes multiple tasks software configuration, system integration, testing, data conversion, user training and system rollout. To understanding how ERP information systems shape organization systems and by observing the competitive outcomes of ERP use, we can better understand and manage the organizational and strategic consequences of enterprise resource planning systems.

6. CONCLUSION

This paper reports on a research study the ERP has the potential to either constrain or expand a firm's strategic opportunities. The possibilities for improved competitive advantage seem to reside in how well the information system is integrated with the organization's culture and learning capabilities. Integration is quite different from the approach recommended by many vendors who try to constrain a firm's culture and employee roles to conform to ERP-based directives .Further, ERP creates the potential for developing collaborative networks of firms to capitalize on global opportunities by uniting relevant people, technologies and ideas wherever they are located (Hamel and Prahalad, 1994). Tapscott (1995) argues that information is the integrating force for today's business organization. If the potential of integration through information is expanded to include individuals, suppliers, customers, complementary firms and related industries, then virtual corporations and networked industries can create a new arena for competition. Firms must be able to transform their ERP systems to conform to new insights and subsequent changes in the social system. Firms need to be able to change their information systems to accommodate new avenues for competitive value that originate beyond operations activities. The flexible enterprises require ERP systems that enable mass customization of business practices so firms can develop and maintain operational and strategic distinctiveness.

7. LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

This study emphasizes the importance of the ERP Implementation Success and links Organizational performance, but it does not address the issue of how the ERP Implementation should be carried out. This research has some limitations. First, this study emphasizes the importance of the ERP Implementation and Social Capital; Intellectual Capital and Innovation Capability. Future research could identify the antecedents of the ERP Implementation Success in context of Thailand. Secondly, used detailed field-based studies, longitudinal case studies, and case surveys and to test different audit environmental influences to each of the factors identified in the model in these difference contexts.

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GENDER DIFFERENCES IN THE USE OF HUMOR IN TEACHING

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ABSTRACT

Educators are constantly searching for more effective pedagogical techniques to improve students' learning. The use of humor is one such innovative tool that teachers employ to engage students in the classroom. However, students' perception of teachers' effectiveness when humor is used in the classroom is not well understood. We hypothesize that there is a difference in students' perception of a teacher's effectiveness based on the teacher's gender. Using a sample of 200 college students, we found support for the positive relationship between the use of humor and perceived effectiveness; however, we did find not support for the expected causal relationship between a teacher's gender and perceived effectiveness. Implications for practitioners and researchers, limitations, and future research directions are discussed.

1. INTRODUCTION

Teachers have the responsibility of not only effectively passing on information to students but also imparting knowledge in a manner that is both engaging and interesting. Enjoyable learning means that students no longer have to perceive the teacher as unapproachable or even mechanical. Humor is an added pedagogical technique that teachers employ to help students enjoy learning. Humor helps reduce anxiety in both students and teachers and has the potential of encouraging collaboration between teachers and students and improving learning outcomes.

Booth-Butterfield and Booth-Butterfield (1991) described humor as the intentional use of verbal and nonverbal communication to elicit pleasure, delight, and laughter. Humor has also been described as an important immediacy behavior (Gorham & Christophel, 1990), which when used effectively in the classroom can be a critical communication component between students and teachers. The ability to communicate with enthusiasm has been found to be one of the characteristics of effective teaching (Schwartz, 1980). Interjecting humor in the classroom facilitates a teacher's ability to communicate effectively and enthusiastically. Humor helps with the enjoyment of teaching and learning. McKeachie (1978), stated that "Enjoyment of teaching is important not only for the enthusiastic professors to communicate to their students, but also in determining their interest in continuous improvement. Both of these important values are likely to be lost if teaching becomes so routine and depersonalized that it is no longer fun" (McKeachie, 1978, p. 284).

Humor has not always had a place in the classroom. Teachers who employed humor used it in the context of achieving the learning objectives of the topic being taught. In fact, the traditional lecture style of teaching left little or no room for two-way communication or even less so, the use of humor in teaching. The use of humor in the classroom has evolved from having no place in the classroom to being encouraged and/or even mandated by some institutions. There has been a concerted push for humor use, especially in courses that students perceive as difficult. The main aim of using humor is to engage students' interest in the classroom long enough for them to learn.

Multiple studies (e.g., Aylor & Opplinger, 2003; Berk, 1996; Bryant, Crane, Cominsky & Zillman; Garner, 2006; Torok, McMorris & Lin, 2004; Sev'er & Ungar, 1997; Wanzer & Frymier 1999; Weisz, 1990; Zhang, 2005) have examined the benefits of the use of humor in the classroom. However, these studies did not focus on students' perceptions of professors' teaching effectiveness when employing humor. Although there are reports that the use of humor in the classroom reduces communication anxiety (Zhang, 2005), facilitates communication (Wanzer & Frymier, 1999), and enhances learning (Aylor & Opplinger, 2003), it is not clear if there are differences in students' perceptions of the effectiveness of teaching with humor based on the instructors' gender. Typically, instructor evaluation forms filled out by students do not contain items related to instructors' gender, humor use, or instructors' teaching effectiveness when they use humor in the classroom. Therefore, students' perceptions of instructors' pedagogical effectiveness when humor is employed in the classroom based on the instructor's gender is not well understood. This has resulted in a lack of meaningful data and a gap in the literature concerning the use of humor in the classroom and has prompted the authors of the present study to examine whether a student's perception of instructors' effectiveness that employ humor in the classroom is influenced by the instructors' gender.

2. LITERATURE REVIEW

The benefit of using humor as an "ice breaker" or to ease tension has prompted a number of scholars to investigate the use of humor in pedagogy. Nussabaum (1992) compiled over 1000 studies published over a 20-year period on instructors' classroom interactions**.** Torok, McMorris, and Lin (2004) examined the perceptions of the professors' teaching style and use of humor. Bryant, Cominsky, Crane, and Zillmann, (1980) investigated the role of humor in forming perception, others like Ziv (1988), examined the influence of humor on learning outcomes, while Perlini et al. (1999), investigated students' use of humor as a coping mechanism and its relationship to test scores. Perlini et al., (1991) reported that the use of humor was positively associated with improved test scores in their study. All these studies found significant positive relationships between the use of humor in the classroom and learning outcomes. Humor in the classroom helps improve professors' immediacy and has been linked to effective teaching and better learning. In a study performed in Australia, Finland, Puerto Rico and Kenya, researchers found that instructor immediacy is positively linked to effective teaching and better learning outcomes, even though these cultures differ in their perception of immediacy behaviors (McCroskey et al., 1996; Roach & Byrne, 2001; Johnson & Miller 2002).

Bryant, Crane, Cominsky, and Zillmann (1980), Chapman and Crompton (1978), Davis and Apter (1980), and Ziv (1988) all reported positive relationships between humor use in the classroom and better learning outcomes. Other studies have reported that the use of humor helped create a harmonious classroom environment (Neuliep, 1991), reduces anxiety (Ziv, 1976; Long, 1983), and more student participation (Korobkin, 1988; Gorham & Christophel, 1990). Humor has also been reported as a means by which instructors can explain and clarify key concepts (Downs, Javidi, & Nussbaum, 1998). Wanzer and Frymier (1999) found a positive association between affective learning and performance and instructor humor orientation. In addition, studies have shown that the instructor's knowledge of a topic is not the most important factor in students' learning; in fact, the possession of good interpersonal skills may outweigh a teacher's knowledge of a subject (Jordan, 1982).

The attention gaining power of humor advanced by Ziv (1979) and Kelley and Gorham (1988), is the theoretical basis for explaining the relationship between instructors' use of humor and students' perceptions' of learning. Ziv (1979) theorized that improved learning outcomes associated with the use of humor in the classroom result from the teachers' ability to use humor to capture and hold students' attention long enough for them to learn. Educators have therefore embraced the use of humor in the classroom as a useful teaching technique. Humor fosters closeness and diminishes physical or psychological distance between teacher and student, and is also positively related to teaching effectiveness and learning outcomes (Anderson & Andersen 1982; Christophel & Gorham 1995; Witt & Wheeless, 2001). Gorham and Christophel (1990) found that the types of humor and the amount used helped explain the relationship between student learning and an instructor's use of humor. Humor humanizes the professor and narrows the power distance between the professor and the students. Carefully controlled power distance helps allay students' fear of the professor and lessen anxiety in the classroom. Torok et al. (2004) proposed that teachers could improve learning by making it more palatable, even enjoyable. The rationale is that enjoyable classroom atmosphere lowers students' anxiety and increases instructors' appeal, which in turn improves students' affinity for learning.

Humor has been used as a preferred technique for injecting liveliness into the classroom (Berk & Nanda 1998). Berk (1996) stated that students bring with them a negative perception about certain courses for a variety of reasons, for instance, anxiety, low math ability, low self esteem, computer anxiety, lack of interest in or perceived uselessness of the course. Berk (1996) cited boredom as a factor that hinders learning and suggested that professors' use of humor is perhaps the missing component in their "instructional arsenal" that is needed to engage students and insure learning. The responsibility therefore rests on the professor to turn a boring class to an exciting one, a perceived difficult class into an enjoyable, this may calm students' anxiety and foster learning. Instructors can use humor to accomplish this enormous task and reduce classroom communication anxiety.

McCroskey (2002) reported that as many as one fifth of students in United States college classrooms are communicatively apprehensive. Classroom communication anxiety has been linked with poor academic achievement (Comadena & Prusank 1988). Teachers' use of humor in the classroom has been identified as a technique that enhances students' learning by lessening anxiety or apprehension (Aylor & Opplinger, 2003). This makes it possible for students to openly participate in class or group discussion (Wanzer & Frymier, 1999). This is critical, because in recent years there has been a push to abandon or minimize the use of the traditional lecture style teaching and embrace more collaborative techniques like discussion, group learning, and general student participation. This implies that students' perception of the teacher's effectiveness is important and may enhance the classroom experience for both students and teachers and improve learning outcomes.

Students' perception of effective teaching with humor may be multidimensional. A variety of factors, such as status (that of professor and student), the professor's and/or the student's age, and the professor's and/or the student's gender, and the professor's and/or the student's race may influence students' perception of an professor's effective teaching with humor. The primary focus of the present paper is on the instructor's gender and how it may influence students' perceptions of the use of humor in the classroom. It may be necessary to first ascertain if the findings of Torok et al. (2004) that link students' perception of better learning outcomes with instructors' use of humor in the classroom holds true for black students, who are the subject of this research. Any correlations among other earlier mentioned factors will also be reported.

The strength of the positive relationship between teaching with humor and better learning outcomes has prompted researchers to recommend the incorporation of humor in teacher education programs (Torok et al., 2004). Although there have been conflicting findings in research concerning the use of humor, Aylor and Opplinger (2003) believe that methodology issues in the studies such as asking students to recall their experiences could have contributed to conflicting results. Further, they believe that the types of humor, mode of delivery, placement, and temporal length of the experiments may also contribute to inconsistent findings. Ziv (1988) noted that the artificial settings in which most of this kind of studies were conducted might be problematic. Other scholars support Ziv's (1998) contention that inconsistent results regarding the use of humor in the classroom and students' learning could also be attributed to problems with the available studies, the study settings, and/or the instruments employed (Gorham & Christophel, 1990; Wazner & Frymier, 1999**),** or the lack of meaningful data concerning students' perceptions of factors that may influence their perception of effective teaching with humor (Elmore & Pohlmann, 1978; Baird 1973). The use of humor has been of interest to educators because of its impact on students' learning and the interactions between students and professors in the classroom (Bryant & Zillmann, 1989; Opplinger, 2002). Researchers have found that perceptions of the amount of humor usage in classrooms are positively associated with how much student feel they learn, the course content, and how they feel about their professors (Torok et al., 2004). Students often linked most favored faculty with the most humorous or somewhat humorous and the least favored being the serious type (Seaton et al., 1980). Despite huge strides in recent decades, blacks are still lagging in educational attainments compared the general population. Even though the number of blacks completing high school has increased, the dropout rate for blacks is still twice that of whites, and the percent of blacks who have earned a bachelors degree or higher is about half of whites (17.6% and 30.6% respectively) (US Census Bureau, 2004). It is imperative that all effort be made to engage all students and encourage learning. Given the favorable these findings and the huge deficiencies in black education, it is necessary to investigate if these findings are true for black students and whether introducing humor may reduce some of the deficiencies.

Hypothesis 1: The use of humor in the classroom is positively related to black students' perceptions of instructors' pedagogical effectiveness.

Limited studies have examined students' perceptions of effective use of humor in the classroom and the instructors' gender. For instance, attitudes towards women and the appreciation of sexist humor (e.g., Moore, Griffiths, & Payne, 1987); boundaries of gender-based classroom humor (e.g. Sev'er & Ungar, 1997). Although these studies dealt with the issues of humor and gender, their focus was not on students' perceptions of learning outcomes as they relate to the gender of the instructor using humor in classroom. Bryant et al. (1980) examined both students' perceptions of humor and instructors' evaluation based on gender. Their study evaluated the use of humor by an instructor in one class period. There is a considerable limitation in judging students' perceptions of learning outcomes of a course in one class period. Furthermore, the one class period setting seems artificial and did not speak to gender biases in students' overall perceptions of the teaching effectiveness. Thus, the present study investigates students' perceptions of the effectiveness of the use of humor in the classroom by professor's gender utilizing a technique developed by Plax, Kearney, McCroskey, and Richmond (1986) which asks student participants in the study to evaluate the professor they had in the class prior to the one in which the survey is administered. The benefit of this methodology is that more teachers are evaluated because students would have had different classes prior to the ones in which the survey is administered, and results can be more generalized. This technique is used in conjunction with a humor orientation scale to measure individual's propensity for and effectiveness in using humor.

Certain individuals are better equipped at using humor than others. According to Aylor and Opplinger (2003), a communication-based personality variable enables some individuals to be more skillful at delivering humor on a regular basis. This personality trait was identified as "humor orientation" by Booth-Butterfield and Booth-Butterfield (1991). Booth-Butterfield and Booth-Butterfield (1991) also introduced the Humor Orientation scale to measure this personality trait, reporting that individuals high on humor orientation not only are more able to frequently and skillfully use humor, they also perceive the use of humor to be appropriate in more situations than those who score low in humor orientation. These individuals with high humor orientation are more spontaneous in producing humor. The assumption is that male instructors traditionally have a higher humor orientation than female instructors because of power differential and other factors.

The power-differential approach has been supported by how individuals (males and females) respond to gender-based humor. Power differences are more pronounced by gender. Since professors are more likely to be male than female in higher education institutions, and female instructors are less likely to be in the upper echelon of power (Olsen, Maple & Stage, 1995), it follows that the sheer number and power differential between male and female professors may determine how humor is used in the classroom by male and female professors (Sev'er & Ungar 1997) and how it is received and perceived by students. Torok et al. (2004) reported that female instructors' use of humor in the classroom may negatively affect their effectiveness. Bryant et al. (1980) suggested that students' perception of humor may be influenced by the instructors' gender because the use of humor by female instructors was less frequently noticed and therefore not appreciated. Lyang (1991) reported that female instructors were more limited than male instructors in their use of humor. Therefore, they resort to using themselves and students for humor in the classroom (Bryant et al., 1979).

Hypothesis 2: Female teachers are more likely to be perceived as less effective by students when they use humor in the classroom compared to their male counterparts.

3. METHOD

Participants

Two hundred undergraduate students at a historically black college and university (HBCU) in the Mid-Atlantic region of the United States were enrolled for this study. The sample was be made up of 95 female and 105 male students. Participants were given a survey, accompanied by both written and verbal instructions on how to fill out the survey.

Participants were asked to think of the class and the professor they had prior to the class in which they were given the survey. The methodology of Plax, Kearney, McCroskey, and Richmond (1986), in which participants were asked questions concerning an immediate previous classroom experience, was used to administer the survey. This methodology helps maximize variety and number of professors accessed in the survey. Questions (e.g., Do female instructors use humor more effectively than male instructors do? How often does your instructor use humor? How well does his or her use of humor communicate relevant points of the topic at hand? What was your impression of the instructor?) were presented in a 5–point

Likert format and addressed the research hypotheses. In addition, basic information on demographic characteristics of both participants and professors were collected (i.e. gender, age, race and ethnicity).

A modified version of the Thorson and Powell (1993) Humor Orientation Scale, a 20-item self-report measure that employs a 5-point Likert format anchored by “strongly agree” and “strongly disagree” was used. The scale measures an individual’s propensity towards creating humorous messages such as jokes or funny stories, in communication with others. Scores from this scale can range from 20-100. Respondents were asked to indicate how frequently the instructor in question successfully used humorous messages during class. Items used include “My professor regularly tells a joke; my professor employs different types of humor in class (See table 1). In the prior studies, the scale was valid and reliable with an alpha reliability of 0.896. However, the modified scale used in this study had an alpha reliability of 0.840.

Table 1.

Humor Scale Survey
Part I: Respondent’s Information

Class:	*Circle one :*	*Undergraduate*	*Graduate*				
Age Group:	*Circle one:*	***16-19***	***20-25***	***26-30***	***30-35***	***>35***	
Gender:	*Circle one:*	*Male*	*Female*				
Race/Ethnicity:	*Circle one:*	*Black/African American*	*White*	*Asian*	*Hispanic*	*Other*	

Part II: Professor’s Information
Professor’s Gender: Circle one: Male Female
Professor’s Ethnicity: Circle one: Black/African American White Asian Hispanic Other
Professor’s Age (estimate): Circle one: **Young** **Middle-aged** **Old**
Part III

Description/Identification of Survey Item	***Scale***				
1. *My teacher says funny things.*	*1*	*2*	*3*	*4*	*5*
2. *His or Her clever ways amuse other students*	*1*	*2*	*3*	*4*	*5*
3. *Older professors use humor more effectively in the classroom*	*1*	*2*	*3*	*4*	*5*
4. *Students look to the teacher to say amusing things*	*1*	*2*	*3*	*4*	*5*
5. *The teacher can ease a tense situation by saying something funny*	*1*	*2*	*3*	*4*	*5*
6. *Use of humor is helpful to put me at ease*	*1*	*2*	*3*	*4*	*5*
7. *I appreciate those who use humor in the classroom*	*1*	*2*	*3*	*4*	*5*
8. *I like a good joke*	*1*	*2*	*3*	*4*	*5*
9. *Getting people to loosen up with humor is useless*	*1*	*2*	*3*	*4*	*5*
10. *Things go better with humor*	*1*	*2*	*3*	*4*	*5*
11. *I am uncomfortable when everyone is laughing*	*1*	*2*	*3*	*4*	*5*

Humor Scale Survey
Part I: Respondent's Information

12. Saying the teacher makes me laugh is a real insult	*1*	*2*	*3*	*4*	*5*
13. I appreciate teachers who generate humor in the classroom	*1*	*2*	*3*	*4*	*5*
14. The teacher's gender is important to consider when the teacher uses humor in the classroom	*1*	*2*	*3*	*4*	*5*
15. Humor in the classroom enhances learning	*1*	*2*	*3*	*4*	*5*
16. Female teachers use humor more often and more effectively in the classroom than male teachers	*1*	*2*	*3*	*4*	*5*
17. Male teachers use humor more often and more effectively in the classroom than female teachers	*1*	*2*	*3*	*4*	*5*
18. My professor uses humor to communicate relevant points of the topics at hand effectively	*1*	*2*	*3*	*4*	*5*
19. I think my professor is effective	*1*	*2*	*3*	*4*	*5*
20. My professor employs different types of humor in class	*1*	*2*	*3*	*4*	*5*

Adaptation was developed from the Multidimensional Humor Scale (Thorson & Powell, 1993)

Descriptive Demographic Characteristics

	Frequencies (%)
Student's Age	
16-25	171 (89)
>25	21 (11)
Student's Gender	
Male	100 (52.4)
Female	91 (47.6)
Teacher Age (Student's Perception)	
Young	13 (7.2)
MiddleAged	118 (65.6)
Old	48 (26.7)
Teacher's Race	
Black	98 (54.7)
White	49 (27.4)
Asian	2 (1.1)
Hispanic	2 (1.1)
Other	
Teacher's Gender	
Male	81 (45.8)
Female	96 (54.2)

Ogbolu Humor in Classroom Study data.sav* N varies due to missing data

3.1. Data Analysis and Results

Demographic Analysis

The data was examined for obvious errors in documentation during data entry, missing values, outliers, and normality. Two cases were dropped because the participants did not respond to any of the questions. Table 2 shows the descriptive demographic characteristics of both the students and the teachers. The respondents were primarily Black undergraduate students, age 20-25 (85.9%), with male (52.4%) and female (47.6%) students nearly evenly distributed. Students identified the teacher's race/ethnicity as black (54%), White (27.4%), and other (15.6%). There was a smaller percentage of female teachers (45.8%) than male teachers (54.2%). The students considered most of the teachers to be middle-aged (65.6%), followed by old (26.7%), and young (7.2%). See Table 2.

Table 2: Factor Loadings, Rotated (Varimax)

Element	Factor Loading	Alpha Score
F1: Personal Appreciation of Humor		0.907
1. The teacher can ease a tense situation by saying something funny	0.611	
2. Use of humor is useful to put me at ease	0.812	
3. Use of humor is useful to put me at ease	0.827	
4. I like a good joke	0.812	
5. Thing go better with humor	0.791	
6. I appreciate teachers who generate humor in the classroom	0.838	
7. Humor in the classroom enhances learning	0.735	
F2: Student Perception of Effective Use of Humor		0.897
1. My teacher says funny things	0.873	
2. His or Her cleaver ways amuse other students	0.864	
3. My professor uses humor to communicate really relevant points	0.828	
4. I think my professor is effective	0.547	
5. My professor employs different types of humor in class	0.864	
F3: Negative Perception of Humor in the Classroom		0.697
1. Getting people to loosen up with humor is useless	0.693	
2. I am uncomfortable when everyone is laughing	0.734	
3. Saying a teacher makes me laugh is a real insult	0.622	
F4: Gender Related Perceptions of Humor in the Classroom		0.602
1. The teacher's gender is most important to consider when the teacher uses humor	0.738	
2. Female teachers use humor more often and more effectively than male teacher	0.709	
3. Male teachers use humor more often and more effectively than female teachers	0.730	

As shown in Table 3, a factor analysis using Varimax rotation revealed 4 factors with eigen values of >1 and explained 65.4% of the variance. Factor 1 explained 35.8% of the variance, 17.2% of variance was explained with factor 2, 7.6% with factor 3, and 4.6% with Factor 4. Factor 1 had 7 items with factor loadings > 0.5. The > 0.5 is consistent with ( ). Factor 1 included the items: The teacher can ease a tense situation by saying something funny, Use of humor helps put me at ease; I appreciate those that use humor, I like a good joke; Things go better with humor; I appreciate teachers who generate humor in the classroom; and Humor in the classroom enhances learning. All of these variables seemed consistent and captured similar feelings, all related to personal appreciation of humor in the classroom.

Factor 2 had 5 items and seemed to capture the effectiveness of teaching with humor. The items included were: My teacher says funny things; His clever ways amuse students; My professor uses humor to communicate relevant points, I think my professor is effective; and My professor employs different types of humor in class. Factor 3 had 3 items with factor loadings > 0.5 (I am uncomfortable when everyone is laughing; Saying a teacher makes me laugh is a real insult; and getting people to loosen up with humor is useless), and were all negative statements related to ,use of humor and all were consistent with each other. Factor 4 had 3 variables with factor loadings > 0.5 (The teacher's gender is most important to consider when the teacher uses humor; Female teachers use humor more often and more effectively than male teachers; and Male teachers use humor more often and more effectively than female teachers), and seemed to capture the items specifically related to humor and gender.

Table 3: *Reliability Analysis & Correlations with Student Perception of Classroom Humor Scales and Teacher's Gender*

Scales and Subscales noted as Factors	**Reliability Analysis**	**Items on scale**	**Correlation with Teacher's Gender**	**P value**
	Cronbach's Alpha		*r = Pearson's correlation*	
Total Student Humor Perception Scale	0.840	20	-.097	0.212
Personal Appreciation for Humor Subscale	0.907	7	-.037	0.633
Student Perception of Effective Use of Humor in Classroom	0.897	5	-.060	0.430
Negative Perception of Use of Humor in the Classroom	0.697	3	-.044	0.567
Gender Related Perceptions of Humor in Classroom	0.602	3	-.030	0.689

2009 Ogbolu Student Perceptions of Teacher's Effective Use of Humor in the Classroom Study data

Table 4 shows four subscales that were devised from the factor loadings; 1) Personal Humor Appreciation Subscale; 2) Student's Perception of the Teacher's Effectiveness Subscale; 3) Negative Perceptions of Humor Subscale; and 4) Student's Perception of Humor and Gender Subscale. Reliability analysis was done for each subscale. The Personal Appreciation for Humor (Subscale Cronbach's α = 0.907); Student's Perception of Effective Use of Humor in the Classroom Subscale, (Cronbach's α = 0.897); Negative Perception of Use of Humor (Cronbach's α =.697); and Gender Related Perception of Humor in the Classroom (Cronbach's α =0.602). All subscales were significantly related to the total scale demonstrating congruence with the concept of humor in the classroom, and had good reliability analysis, when considering the number of items per scale.

Table 4
Linear regression of effectiveness scores on female teacher's effective use of humor in teaching, controlling for humor subscale scores

Model	Student Perception of Teaching Effectiveness	Regression Coefficient	Std. Error	t	P
1[a]	(Constant)	5.990	1.45		0.000
	Humor subscale score	0.423	0.05	8.346	0.000
2[b]	(Constant)	4.140	1.61		0.011
	Humor subscale score	0.432	1.45	8.618	0.000
	Female teacher effectiveness using humor to teach	0.672	.267	2.522	0.013

[a]R^2 = 0.270, P = < .001 for model 1
[b]R^2 = 0.295, P =< .001 for model 2

Table 5 shows the result of a multiple linear regression analysis that was performed to ascertain if indeed there are gender differences in students' perception of teachers' effectiveness when humor is employed in the classroom. Model 1 was done to evaluate the initial hypothesis of this study: the use of humor in the classroom is positively related to students' perception of instructor's effectiveness. The model explained 27% of the variance in effectiveness (R^2=0.27). The use of humor in the classroom was significant (*b*=0.423, p= <.001). The effectiveness scale will increase by 0.423 points when humor is used. Model 2 was done to test the second hypothesis: Female teachers compared to their male counterparts are more likely to be perceived as less effective by students when they use humor in the classroom. A second linear regression analysis was performed. The model was significant and explained 29.5% of the variance in student's perception of teacher's effectiveness (R^2= 0.295, p <.001). There was a significant relationship between female's use of humor and effectiveness (b=0.672, p=.013). The effectiveness scale was increased by .672 points for female professor's use of humor in the classroom, therefore hypothesis two was not supported.

Table 5: Logistic Regression Model on Teacher's Gender*

Factors	Beta	Odds Ratio	95% CI	P value
Personal Humor Appreciation	-.005	.995	.933-1.061	.877
Student Perceptions of Teacher's Effectiveness	-.039	.962	.891-1.038	.318
Negative Perceptions of Humor	-.006	.994	.874-1.130	.929
Student Perception of Gender and Humor	.009	1.009	.889-1.144	.893

Note: Model Fit, X^2=4.94, df=8, p>.05, Cox &Snell=.012

Table 6 is the result of a multivariate logistic regression analysis that was performed to examine the relationship between professors' gender and the subscales. The dichotomous variables, outcome variable, teacher's gender (Female=1, Male=0), and all four factors were entered into the model simultaneously. The model was not significant (X^2=4.94, df =8, p = > .05). The overall model was poor and only explained 1.2% of the variance in gender (Cox &Snell=.012). The regression model was good at predicting females (90%) and very poor at predicting males (19.2%), with an overall prediction of 59%. No significant relationships were noted between gender and the subscales.

Table 6: Multiple Regression of Professor's Race on Student Perception of Teaching Effectiveness Total Score

Model	Student Perception of Teaching Effectiveness	Regression Coefficient	Std. Error	t	P
1[a]	(Constant)	69.000	1.633		0.000
	RevisedProRace	-5.649	1.993	-2.835	0.005

[a]R^2 = 0.048, P = < .005

Furthermore, while the composition of students in the sample was primarily African American students, the faculty mix was more diverse, with African American professors (54.7%) and White professors (27.4%). There was a significant relationship between the professor's race and the student's perception of effective use of humor in the classroom (B= -5.649, T=-2.835, p=.005). The Student Perception of Teaching Effectiveness Score was 5.6 points lower for White professors than for African American professors (B= -5.649, T=-2.835, p=.005), indicating that African American students perceived professors of the same race as more effective when using humor in the classroom. See Table 7.

3.2 Discussion

The purpose of this study was first to investigate the associations between instructors' use of humor and students' perception of teaching effectiveness, and second to examine if the perceived teaching effectiveness varied with instructors' gender. A significant positive correlation between students' evaluation of teaching effectiveness and instructors' use of humor was expected. Furthermore, based on available literature, the authors expected the positive correlation between the use of humor in the classroom and students' perception of instructors' teaching effectiveness would be stronger for male instructors for female instructors. Literature suggests that male instructors use humor more often than female instructors (Sev'er & Ungar, 1997), and that students may accept and even enjoy jokes by male professors while female professors employing humor may be seen as unserious or engaging in an inappropriate behavior. However, this was not the case in the present study. There was no significant difference in students' perception of instructors' use of humor and teaching effectiveness based on the instructors' gender.

Although the present study did not examine the type of humor used by these teachers, Bryant et al. (1980) argued that the use of hostile humor with sexual contents favored female professors. They attributed this finding to the fact that female professors who use hostile humor or humor with sexual connotations exhibit some aggressiveness that makes them appear assertive, authoritative, and appear "equal" to their male counterparts. Female professors seem to have to break through the invincible unspoken artificial boundaries ("ladylike behavior") set as normal for them by society when they use humor in the classroom. In addition, they seem to have to conform to yet another stereotypical role when they do use humor to be respected or seen as equal to their male colleagues. In other words, female professors are not expected by students to use humor in class, but when they do, in order to be equally effective or assertive as male professors, they use hostile or aggressive forms of humor because that is the stereotypical norm that has been artificially set for them when they break the first stereotype of being "lady like" (Bryant et al., 1980). However, Layng (1991) argues that sexually deprecating humor can have direct negative effects on students and their perceptions of their teachers, especially the effectiveness of female instructors. Further research is needed to ascertain if the lack of significant difference can be attributed to the type of humor employed.

Humor can be an effective medium for communication in classrooms if applied skillfully, effectively, and cautiously. Humor also has the potential to be complicated because it can be personal and subjective and because the recipients of humor may have different perceptions of humor from the individual delivering it. Humor has a potential of being offensive especially when it concerns sexual, cultural, political, or social issues. Powers (2005) in his Teaching Tips gave some guidelines for using humor in the classroom: (1) Do not use hurtful humor; (2) Be mindful of your student/teacher dynamic; (3) Make humor relevant; (4)

Do not be afraid to be embarrassed; (5) Time the delivery of humor; and (6) Use common sense. While this study did not identify differences in student's perception of humor based on a professor's gender it did identify some important associations between the professor's race and student's perception of effective teaching with humor in the classroom.

In summary, this study supports the importance of the use of humor engage students in the classroom to. Humor is an important tool teachers can use to break the monotony of lecture, and enliven, and energize the classroom, as shown by Garner (2006), Torok et al. (2004), and Wanzer and Frymier, (1999). This study is novel and this sample was unique in that it is one of the few studies examining humor in the classroom that used predominantly African American undergraduate students. The experience of humor in the classroom may be different for this population. Participants surveyed did not discriminate between male and female professors in relation to teaching effectiveness and the use of humor. Furthermore, there is the possibility that for this sample, both male and female professors were perceived as equally effective at teaching with humor. While the composition of students in the sample was primarily African American students, the faculty mix was more diverse, with African American professors (54.7%) and White professors (27.4%). There was a significant relationship between the professor's race and the student's perception of effective use of humor in the classroom, which showed that African American students perceived professors of the same race, regardless of gender, as more effective when using humor in the classroom. Although further research will be useful to ascertain if this holds true for other ethnic groups, this study enhances knowledge in the research literature related to the use of humor in the classroom, especially for professors teaching predominantly African American undergraduate students.

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GRADUATE STUDENTS PERCEPTIONS OF ONLINE LEARNING: A 10 YEAR COMPARISON

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ABSTRACT

The research study on graduate students' perceptions of online learning was to determine whether online graduate academic programs were still a positive choice for a graduate and post-graduate students. The authors conducted a research study of 686 online graduate students in a non-profit private university. The graduate students were from multiple graduate disciplines such as Master of Science in Education (MSE), Doctor of Philosophy in Education (PhD), Master of Arts in Criminal Justice (MACJ), Master of Science in Nursing (MSN), and Master of Business Administration. The study was a 10 year comparison of a longitudinal study that compared the perceptions of online students over a five year period. The study examined, analyzed and compared perceptions of online learning of students between 2001 and 2006.The study took factors into consideration such as gender, age, employment status, students with dependents, geographic region, citizenship, program completion, student recommendation of online courses, and online learning taking place through assessments, discussions, tests, cases, papers, final exams, homework assignments, and electronic presentations. The study validated that online learning is convenient, flexible, easy to use, and students learn from assessments unique to online learning modalities such as discussions. Because of these discoveries, online learning will remain as a preferred choice for students pursuing a degree. The study attempts to address limitations from the previous studies such as surveying students in other disciplines.

Keywords: *Students' perceptions, online learning, online technology, student engagement, adult learner, time commitments, web based technology, hybrid, quality of learning, blended methods of learning, time commitments*.

1. INTRODUCTION: Graduate Students Perceptions of Online Learning: a 10 year comparison

Online learning continues to be an enrollment choice in higher education. The authors conducted a research study of 686 online graduate students in multiple graduate disciplines such as Master of Science in Education (MSE), Doctor of Philosophy in Education (PhD), Master of Arts in Criminal Justice (MACJ), and Master of Business Administration (MBA) to determine their preferred method of learning. Their study was based on a previous study by Perreault, Waldman, Alexander, and Zhao (2006) which compared graduate business students' access to graduate academic programs and their perceptions of online learning over a five-year period. The study was between 2001 and 2006. In 2006, students had greater access than in 2001 and that was partly due to convenience, flexibility, quality of education, and the growth of online enrollment in higher education. While the growing number of online students continues to increase, Perrault et al (2006) study showed that in 2006 students felt more strongly that the quality of online courses was better than traditional courses although they felt more time was needed to complete online courses than traditional courses.

1.2. Purpose of the Study

The study's purpose was to determine whether online graduate academic programs were still a positive choice for graduate working adult students and whether online learning continues to be a preferred choice for a post graduate degree. The factors that the authors took into consideration were: (a) program enrollment, (b) number of online courses completed, (c) gender, (d) age, (e) employment, (f) students with dependents, (g) geographic region, (h) citizenship, (i) program completion, (j) student recommendation of online courses, (k) learning took place through assessments, discussions, tests, cases, papers, final exams, homework assignments and electronic presentations.

1.3. Review of the Literature

In order to develop online learning, synchronous and asynchronous formats must be used. The International Council for Correspondence Education coined the term distance education (Moore, 1990). Distance education has been defined as “the process of extending, learning, or delivering instructional resource sharing opportunities, to locations away from a classroom, building or site by using video, audio, computer, multimedia communications, or some combination of these with their traditional classroom learning. Online learning consists of those courses in which 80 percent of the course content is delivered online (Allen and Seaman, 2006) Allen and Seaman (2006) describe the type of courses as follows (a) Traditional: Zero percent of the content is delivered online, (b) Web facilitated:1-29 percent of content delivered learning online, (c) Blended: 30-79 percent of course content delivered online and (d) Online: 80 percent or more of content delivered online with no face-to-face interaction. The traditional lecture was the primary delivery model for college faculty until the late 1980’s (Picciano, 2002). The student population consisted of working single, residential 18-23 year olds. As educational practitioners entered the telecommunication age in the year 2000, the student population changed to married, employed, non-residential students (Beller and Or 1998). Students’ perceptions of online learning being beneficial were due to the changes in student population and development of new technologies such as online and interactive learning.

Several studies show that innovations in educational delivery mechanisms and advancements in technology such as the Internet and the World Wide Web have contributed to the growth of online courses. Picciano (2002) provided research that supports the significant number of individuals taking fully-online courses at the post-secondary level. Picciano (2002) study revealed that half of the households in the United States were taking online courses. “Millions of students in educational levels (primary, secondary, post-secondary, continuing education) participate in online, hybrid, mixed mode, and Web-enhanced face-to-face courses. However, the effectiveness of online courses particularly in relation to individual student needs, perceptions, and student outcome is sometimes questioned” (Piccano, 2002, p. 21).

One early research study on the effectiveness of online learning was conducted by O’Malley (1999) at a medium size state university in the southeastern part of the United States. The goal of the study was to investigate the advantages of distance and online learning over traditional educational delivery models. O’Malley (1999) surveyed 128 students to find out if online learning and distance learning were as effective as traditional teaching methodologies. One of the results of the survey was that students did not perceive online learning and distance learning to be the same. A separate analysis was conducted. The research indicated that online learning had more significant advantages than the traditional methodologies. While the participants do not believe that they learn more in online courses and have concerns to the online discussions requirements, they do feel that online courses save them time, offer better schedules, and they have the ability to take more courses. Students prefer the online courses. A limitation of this study was that it cannot be generalized to non-business students. Another limitation is that the results of the students surveyed at one university cannot be generalized to those of students at other universities.

In Picciano (2002) study there is support that students and faculty report increased satisfaction in online courses. The satisfaction depends on quality and quantity of interactions. Shea, Fredericksen, Pickett, and Swan (2001) conducted a survey of 3,800 students in 264 courses through SUNY Learning Network. The study concluded that students were most satisfied with the grade received on the discussions and the quality and quantity of the interaction. Hartman and Truman-Davis (2001) and Dziuban and Moskal (2001) both found statistically significant correlations between interactions in online courses and student satisfaction.

The United States General Accounting Office (2002) reported that 1.5 million out of 19 million postsecondary students took online courses. The results were for the 1999-2000 school year. According to Allen & Seaman (2006), students in the United States took at least one online course in fall 2006. There appears to be no leveling in the growth rate (Allen and Seaman, 2006).

In a study by Harvard Business School Professors Orgill and Hervey (2012), revealed that online learning would grow slowly; however, According to the 2010, Sloan Survey of Online Learning, approximately 5.6 million students will be enrolled in a type of online class. Experts predict that online education can reach 14 million in 2014 (Orgill & Hervey, 2012).

2. RESEARCH

2.1. Benefits of Online Learning to Support Why Students Choose Online Academic Programs

Flexible Time Management

The advances in technology have made a positive contribution to educational design and practice. The benefits of online learning consist of flexible time management, working remotely from home, place of employment, Wi-Fi and 3G enabled smartphones, laptops, or internet tablets. Flexibility can be a factor of encouragement for the working adult learners who wish to pursue a career in higher education.

Innovative and Effective Approaches to Encourage Student Discoveries

Online learners are not intimidated by being embarrassed to publicly contribute an answer that may seem wrong or ridiculous to others. The online discussion forum encourages contributions from all the learners while the facilitator evaluates proper use of writing, definitions, concepts, theories, and activities. Learners value the experience of sharing their views and learning from each other. The facilitator's role is to ask probing questions, motivate students, and get them to expand their thoughts and move discussions forward. The online learner is an active contributor of their learning versus a spectator in the classroom. The online classroom has control mechanisms that ensure the learner's active participation by recording the time spent in the classroom and the number of required posts in a given week. In conclusion, online learners adhere to high standards while working at their own pace.

Online courses are well structured. Objectives are assigned, so that facilitators teach to the objectives; expand on definitions, theories, or concepts. Students develop skills through discussions, activities, individual assignments, team assignments, case studies, research papers, and exams used to assess the learning and understanding of the objectives. The online activities such can also take Socratic discovery to levels like those of the best graduate law schools, and business schools (Christensen & Eyring, 2011).

There are numerous resources through online libraries linked to the online classroom that range from peer-reviewed databases, economic intelligence units (EIU), major article databases, research on business industries, and government agency databases.

2.2. Engagement

In Herrington, Oliver, & Reeves (2002) study on *Patterns of Engagement in Authentic Online Learning Activities*, proposes 10 characteristics as criteria for in-depth investigation of effective selection of online units and courses. The activities consist of the following: (1) activities with real-world relevance, (2) requiring students to define tasks and sub-tasks to complete activities, (3) complex tasks to be investigated over a period of time, (4) examine the tasks from different perspectives, (5) opportunities to collaborate, (6) opportunities to reflect, (7) the ability to integrate activities and apply across different subject areas and lead beyond domain-specific outcomes, (8) activities seamlessly integrated with assessments, (9) activities that culminate in the creation of a student's own product instead of something else, and (10) multiple solutions of an original nature rather than a single correct response obtained by rules and procedures. These units of study are encapsulated within complex efforts for the successful adoption and implementation of activity based online courses or units.

2.3. Effective Facilitation and Teaching Effectiveness in an Online Environment

Participative facilitators encourage students to get involved and contribute more in the course discussions, which results in interactive and dynamic classes, full of discussion, new ideas, and expanding views.

Faculty participation posts that are highly facilitative include the following:

(a) Building on student comments by adding substantive contributions to the discussion, including suggesting alternative solutions, adding other perspectives, pointing out problems, and disagreeing constructively at times. (b) Motivate students to apply course concepts to the workplace environment and their daily lives. Enlighten students by asking probing questions that encourage them to think deeply. (c) Sharing content knowledge by sharing experiences and analyzing course concepts in the class discussions. (d) Referring to current course readings and asking students to apply these course materials to their posts.

Gorsky and Blau (2009) offer seven classic best practices for professors and these practices are still extremely viable when taking the online teaching environment into consideration. The seven practices are (1) promote faculty-student communication, (2) encourages collaboration between students, (3) supports active learning, (4) provides prompt and appropriate feedback, (5) stresses time-on-task, (6) communicates expectations clearly, and (7) respects diverse learning styles. These best practices have evolved into the following concepts for the online learning environment: (a) teaching presence-facilitation and direction, (b) social presence-to establish personal relationships, (c) cognitive presence- exploration, construction, resolution, and reflective thinking.

3. LEARNING AND INTERACTION

Moore (1993) asserts that managing collaborative efforts involves interaction with resources, teachers, and peers. These types of interactions can be a concern for both face-to-face and online environments, but there are advantages and disadvantages among both modalities. The goal is to identify which one benefits the student the most. Curtis and Lawson (2001) discuss the technologies that allow collaborative learning to be effective. The study also cites Johnson & Johnson (1996) which lists the major types of behaviors in a collaborative learning environment such as: (a) giving and receiving help, (b) exchanging resources and information, (c) explaining information, (d) sharing existing knowledge with others, (e) providing and receiving feedback, (f) challenging others, (g) advocating increased effort, engaging in small group skills, (h) monitoring each other's' efforts and collaboration. Research has shown that students in a traditional non online environment will refrain more from collaborative efforts which prove to be an effective contributor of student learning.

3.1. Maintaining Online Students Engaged

Gallien and Oomen-Early (2008), asserted that "teaching and learning in an environment separated by space and time require a new set of skills and practices for both teacher and learner" (Gallien & Oomen-Early, 2008, p. 464). Gallien & Oomen-Early further identified that the quality of faculty feedback influences student's feelings of connectedness and satisfaction through the use of three primary types of feedback as identified by Blignaut & Trollip's Taxonomy of Feedback: corrective; informative; and Socratic (Blignaut & Trollip, 2003).

3.2. Research Methodology

Two groups of graduate students were initially surveyed in 2001 and 2006 to determine their perceptions and experiences relating to online learning (Perrault, et al., 2008). The current study is a longitudinal study approach to compare the differences over a ten year period from the three surveys completed in 2001, 2006 and 2011.

The authors designed and developed a similar survey instrument to gather responses from 686 graduate students enrolled in six graduate programs in a private state-wide university. The survey was programed to appear when students logged into their courses.

The survey was self-administered using an electronic survey software. The survey utilized a Likert-like balanced scales and rank-order scales to determine students' attitude toward online learning. The survey results were imported into statistical software and averages, correlations, statistical analysis were obtained to compare the results to Perrault, Waldman, Alexander, and Zhao (2006) study of Graduate Business Students' Perceptions of Online Learning: A Five year comparison. Perrault et al., (2006) provided results of students' perceptions of online learning between 2001 and 2006.

3.3. Evaluation and Analysis of Research findings

3.3.1. Analysis of the Number of Courses Taken

The results showed that more females are enrolled in the program. There are 20% more females than in the studies conducted in 2001 and 2006. There are 29.6 % of males and 69.4% females. There was a 20% increase in 2011 of the number of females that enroll in graduate online programs.

Fewer students were under 25 years old, more students enrolling are between the ages of 25-30 and the average age is 31-43. There is an increase in students over 41 years old enrolling in graduate online programs.

Work status was evaluated and analyzed. There were 76% of the students working full-time, 10% working part-time, and 14% not working. There are also 35% of the students with at least 1 dependent and 97% of the students are located within the United States. The study had 88% U.S. citizens. One advantage that this study has is that the study obtained program completion results. The survey revealed that 84% successfully complete graduate online programs and 15% of students successfully complete hybrid programs.

3.3.2. Additional Time Perceptions for online Courses by Students in 2001, 2006 and 2011.

Time Commitments

Three specific time commitments were examined. The time commitments included completing class related activities, completing homework and communicating with the professor. Out of the students surveyed, there were significant increases between 2001 and 2006 indicating that students feel that class related activities including homework and communicating with the professor take more time. Between 2001 and 2006, there was an 8% increase in the amount of students that felt that it took more time to complete homework assignments. Between 2001 and 2006, there was a 10% increase in the amount of students that felt that communicating with their professor took more time in the online environment.

Although these results may appear as if students may prefer completing classroom activities in a classroom environment, online learning continues to be the learning method of choice. Interestingly, students are becoming more accustomed to improve their time management. The study results revealed that there were decreases in the students' perceptions of completing class-related activities, homework, and communicating with the professor.

The study results showed no increase or decrease in completing class related activities; however, there was a 7% decrease in the number of students that perceived homework assignments take more time to complete and there was a 7.7% decrease in the number of students that perceived communicating with the professor took more time.

Table 1
Distance Learning Students Profile

	2001 Distance Learning Students		2006 Distance Learning Students		2011 Distance Learning Students	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Variable						
# of Online Courses						
0 Courses					121	17.5
1-2 Courses					136	19.6
3-4 Courses					111	16
5-8 Courses					157	22.7
9-13 Courses					128	18.5
14 or Greater					33	4.8
Program						
MACJ					84	12.1
MBA Online					295	42.6
MBA Hybrid					74	10.7
MSE					110	15.9
MSN					14	2
PhD.					109	15.7
Gender						
Female	83	44.3	152	54.1	481	69.4
Male	66	55.7	129	45.9	205	29.6
Age						
Under 25	47	30.7	59	19.7	61	8.8
Between 25 and 30	33	21.6	110	36.7	176	25.4
Between 31 and 40	43	28.1	72	24	223	32.2
41 or Older	24	15.7	39	13	226	32.6
Work Status						
Full Time					523	75.5
Part Time					66	9.5
Not Working					97	14
Dependents						
0					246	35.5
1					157	22.7
2					151	21.8
3					78	11.3
4					33	4.8
5					12	1.7
6 and over					9	1.3
Location						
Within U.S.	131	88.5	26.4	97.4	674	97.3
Outside U.S.	17	11.5	7	2.5	12	1.7
Citizenship						
U.S. Citizen	134	90.5	264	97.4	610	88
non U.S. Citizen	14	9.5	7	2.5	76	11
Completion of Program						
Fully Online					583	84.1
Partially Online					103	14.9

Comparison of Students' Agreement with Time Commitment of Online Courses						
Online Courses Take More Time in:	**2001 Student Mean**	**2006 Student mean**	**2011 Student mean**	**t**	**df**	**P**
Completing class activities	2.82	2.61	3.19	1.982	417	.048*
Completing homework	2.65	2.34	3.32	2.93	421	.004**
Communicating with professor	2.8	2.53	3.08	2.419	417	.016*

Note: Mean based on a 5 point Likert scale, from a 5 indicating strong agreement and 1 indicating strong disagreement

3.3.3. Methods of Communicating with the Professor

In 2001, 93% of students were communicating with their professor via email. In 2006, 98% of students were communicating with their professor. Communicating via telephone and in-person experienced increases. Between 2001 and 2006, there was a 15% increase in the number of students communicating with their professor via the telephone between 2001 and 2006. There was a 1.3% increase in the number of students that were communicating with their professor face-to-face. Telephone and face to face communication are preferred by students; however, for a variety of reasons students continue to use e-mail and now text messaging as the main medium of communication.

Different and newer methods of technology have become available and more popular since 2006. In the current study, there was a 25% decrease in the number of students that were using e-mail to communicate with their professor. Instead, they were using text messages. The current study continued to show that students prefer communicating with their professor via telephone and in-person. Communicating with the professor via telephone increased 15.5% between 2006 and 2011 and communicating with the professor in-person increased 15% between 2006 and 2011.

Methods of Communicating with Professor by Group

Communication method	***2001 n=153***		***2006 n=300***		***2011 n=686***	
	n	**%**	**n**	**%**	**n**	**%**
Email	141	93.40%	278	98.00%	501	73%
Telephone	46	30.50%	95	45.50%	418	61%
In Person	24	15.90%	33	17.20%	221	32.20%
Texting					175	25.50%
Fax	15	9.90%	10	5.30%	110	16%

Main Reasons Student Selected an Online Course in 2001 and 2006

Students select online courses for the following reasons: (a) fits students' schedule, (b) avoid traveling to class, try new environment, (c) flexibility offered, and (d) course not offered in area. In 2001, 2006, and 2011 students selected online courses because it fit their schedule. There was a consistent percentage between 2001 and 2006; however, there was an 11.4% increase in 2011. The student population surveyed in 2011 is interested in their school schedule fitting their personal and work schedule.

Main Reasons Students Selected an Online Course in 2001, 2006 and 2011

	2001 online learning Students (n=153)		2006 Online Learning Students (n=300)		2011 Online Learning Students (n=686)	
Reason for Selecting	**n**	**%**	**n**	**%**	**n**	**%**
Fits my schedule	59	38.60%	112	37.30%	334	48.70%
Avoid traveling to class	22	14.40%	51	17.00%	43	6.30%
Try new environment	13	8.50%	53	17.70%	38	4.30%
Flexibility offered	17	11.10%	53	17.70%	202	29.10%
Course not offered in area	11	7.20%	13	4.30%	77	11.10%
		79.80%		94.00%		99.50%

Types of Technology Training Students Received in 2001, 2006, and 2011

The types of technology training available for an online classroom may involve (a) no training, (b) self-training, (c) orientation workshop, (d) videotape/CD/DVD, and (e) other.

(a) no training was consistent all three years. The majority of students reported that they do not require training to learn and become acclimated with an online classroom, (b) self-training, was consistent in 2001 and 2006; however only 6.30% students reported that they self-trained themselves (c) orientation workshop contributed to students learning to use the online classroom in 2001 and 2006; however, in 2011 only 4.30% of students reported that they took an orientation workshop to learn how to use the online classroom (d) videotape/CD/DVD, in 2001 6.50% of students learned to navigate an online classroom through videotape/CD and DVD, In 2006, 21.7% reported that they learned through videotape, CD, and DVD and in 2011 29.10% reported that they learned through videotape/CD/DVD which indicates another way of students learning to navigate the online classroom on their own. (e) In 2011, 11.10% of students reported that they learned how to navigate the online classroom via other methods an increase from 2006 which was 6.7% and 2001 7.2%.

Types of Technology Training Students Received in 2001, 2006 and 2011						
	2001 Online Learning Students (n=153)		**2006 Online Learning Students (n=300)**		**2011 Online Learning Students (n=685)**	
Type of Training	**Frequency**	**Percent**	**Frequency**	**Percent**	**Frequency**	**Percent**
No Training	72	47.10%	126	42.00%	334	48.20%
Self Training	50	32.70%	115	38.30%	43	6.30%
Orientation Workshop	31	20.30%	30	10.00%	30	4.30%
Videotape/CD/DVD	10	6.50%	65	21.70%	202	29.10%
Other	11	7.20%	20	6.70%	77	11.10%
		113.80%		118.70%		99.00%

Perception of the Quality of Online Courses as Compared to Traditional Courses by Students in 2001, 2006, and 2011

The students surveyed in 2001, 2006, and 2011 reported whether their experience was better, neutral, or worse than in traditional classroom settings. Between 2001 and 2006 there was a 7.7% increase in the amount of students that reported that the online experience was better. Impressively, between 2006 and 2011 there was an 11.4 percent increase. All together between 2001 and 2011, ten years later there is a 19.1 % increase in the number of students that reported that the quality of online courses is better compared to those of traditional courses.

Perception of the Quality of Online Courses as Compared to Traditional Courses by Students in 2001, 2006 and 2011							
		2001 Online Learning Students (n=153)		2006 Online Learning Students (n=300)		2011 Online Learning Students (n=685)	
Quality of Online Instruction		Frequency	Percent	Frequency	Percent	Frequency	Percent
Better		27	17.60%	76	25.30%	254	36.70%
Neutral		75	49.00%	151	50.30%	368	53.10%
Worse		45	29.40%	40	13.30%	64	9.20%
			96.00%		88.90%		99.00%

Students in 2001, 2006 and 2011 Who Would Recommend Online Courses
In 2006, there was an upward trend in the number of students that would recommend online courses; however there was a slight decrease in 2011 almost insignificant because 385more students were surveyed. In the big scope of the analysis, there has been a 33% increase in the number of students that would recommend online courses. There is consistency with the number os students that remain uncertain and a major significant decrease in the percentage of students that would not recommend online courses. There was a 32.20% decrease in the number of students that would not recommend online courses; therefore, students are favoring online courses.

Students' Perception of the Quality of the Online Environment by Program
The Master of Business Administration (MBA) students reported the highest percentages of perceiving the quality of online education being better than traditional delivery methods. The MBA Hybrid which has a traditional delivery method component does not feel as strongly as the fully online students. The Master of Arts in Criminal Justice (MACJ) and Master of Science in Nursing (MSN) did not feel as strongly about the quality of online education and that may be due to the practical applications of their disciplines that may be abstract in an online environment. The doctoral students did report more favorable perceptions than the MSE and MACJ.

Quality of Online by Program Cross-tabulation

		Combined MBA					
Perceived Quality of Online Classes	MACJ	MBA Online	MBA Hybrid	MSE	MSN	PhD Ed. Leadership	T otal Percent
Better	4.61%	17.77%	1.29%	5.05%	1.90%	9.52%	37.11%
Neutral	6.64%	22.66%	6.64%	9.52%	0.10%	6.20%	53.40%
Worse	0.88%	3.79%	2.65%	1.32%	0.00%	1.17%	9.42%
	12%	44.22%	10.58%	15.89%	2.00%	16.89%	99.93%
	12%	42.56%	10.66%	16.20%	2.00%	16.00%	

Age of Students by Program
The evaluation and analysis of the program/age cross tabulation revealed that the populations of students that concentrate in taking online courses are between 25 and 41. Students between 25 and 41 make up 88.96% of the population. These students are the non-traditional working adult switch families that prefer their education delivery methods in an online modality due to flexibility and convenience. The population of students under 25 is 8.4% which also fall into the non-traditional category. The age of students by programs was not surveyed, evaluated, analyzed and discussed in the 2001 and 2006 studies.

Why Students Chose Online by Program
The results of the evaluation and analysis of why students choose online courses revealed that the main reason students select online classes are due to the courses fitting their schedule. The MBA, MSE, and PhD program had the highest percentages. The total number of students that prefer online courses due to their schedule was 48% of the population surveyed. Students did not provide much input as it related to traveling to class or trying a new environment. Half of the population prefers online courses and that is a significant response. The reasons why students choose online programs was not surveyed, evaluated, analyzed and discussed in the 2001 and 2006 studies. Fitzgerald and Salas-Amaro (2012) provide sufficient evidence to support that there is an increasingly significant # of students that prefer online learning and online learning has a bright and prosperous future.

Program/Age Crosstabulation

	AGE				
Program	Under 25	25-30	31-40	41 and Older	Total Percent
MACJ	2.30%	3.30%	2.60%	3.35%	12.20%
MBA Online	4.50%	13.40%	15.20%	10.90%	43.00%
MBA Hybrid	1.60%	2.50%	2.90%	3.80%	10.70%
MSE	0.04%	6.00%	5.24%	4.40%	16.00%
MSN	0%	0.02%	0.01%	0.07%	2.00%
Phd Ed. Leadership	0%	0.07%	5.40%	9.80%	15.90%
	8.44%	25.29%	31.35%	32.32%	99.80%

53.7% MBA population

Program and Why they Chose Online Cross-tabulation

Combined MBA

Reason for Selecting	MACJ	MBA Online	MBA Hybrid	MSE	MSN	PhD Ed. Leadership	Total Percent
Fits my schedule	4.66%	24.00%	4.00%	8.00%	0.01%	6.40%	48.40
Avoid Traveling to Class	0.04%	2.40%	0.07%	1.36%	0.00%	1.36%	6.26
Try new environment					0.00%		4.40
Flexibility Offered	0%						29.44
Course not offered in area							11.22
	12.24%	43.00%	10.78%	16.03%	0.20%	11.22%	99.72

Student Perception of where learning occurs in the Online Environment

			Number	*Percent*
Discussions			360	51.90%
Papers			115	16.60%
Cases			48	6.90%
Homework Assignments			139	20.10%
Power Points			21	3.00%
Final Examinations			3	0.40%
			686	98.90%

More than half of the population of online students surveyed perceived that their learning takes place in the discussion boards. The discussions are a component of online courses. Students will respond to the initial discussion question and then they will continue to be actively engaged by adding subsequent posts to fellow classmates. Online classes require rigorous responses that are substantive and well supported. While every assessment measures a student's learning discussions, not only measure their learning but they encourage students to think critically and expand their thoughts.

Ease of Use of the Online Classroom

	Number	*Percent*
Strongly Disagree	26	3.80%
Disagree	24	3.50%
Neither agree or disagree	103	14.90%
Agree	439	63.30%
Strongly Agree	94	13.60%

The results of this survey support that the types of technology available for online courses and their ease to use. More than half of the population surveyed agrees that the online classroom is easy to use. These results support that the types of technology available are not difficult. Over 50% of the population reported that they can self-train, and learn by navigating the site. Out of our total population surveyed 63.30% reported that the online classroom is easy to use.

3.4. Limitations of the Study

The research results indicated that online learning had more significant advantages than the traditional methodologies. While the participants do not believe that they learn more in online courses, they do feel that assessments such as discussions contribute to their learning. Discussion exercises are unique to online courses. Online courses are convenient, save time, offer better and flexible schedules, and provide students with the ability to take more courses. Students prefer the online courses due to life's time constraints and the ability to work around work and family life. A limitation of this study was that it cannot be generalized to non-business students, students in non-education, non-criminal justice, non-nursing, and non-education doctoral disciplines. Another limitation is that the results of the students surveyed at one university cannot be generalized to those of students at other universities. The study does not address the teaching styles of faculty as well as the time that faculty can devote to customizing programs or addressing individual needs for students.

3.5. Future Research

There are additional aspects of online learning that can be enhanced. The study did not attempt to determine how students felt about they perceive their employment opportunities after completing an online program or how employers perceive an online program. The study did not attempt to discover whether students felt they were ready for the workforce. One final limitation was that the study did not make discoveries to determine how likely students felt like dropping at the beginning of an online program or at mid-point. Since online learning will continue to be a preferred choice institutions of higher learning can also design and develop training programs for online facilitators that will contribute to best practices for student engagement, student success, and measuring student's learning.

3.6. Contribution to the Body of Knowledge

A leadership perspective is incorporated in envisioning the online class of the future and the success of students and institutions. The study validated that online learning is convenient, flexible, easy to use, and students learn from assessments unique to online learning modalities such as discussions. Because of these discoveries, online learning will remain as a preferred choice for students pursuing a degree. The results of the study can contribute to success strategies that can better educate and prepare students to succeed in an online program. The results of the study can contribute to evaluating online assessments, enhancing assessments and making them suitable to online learners.

4. CONCLUSION

The study found crucial elements that identify the characteristics of students that take online courses and prefer online courses. Research was conducted on students' profiles, time commitments, age groups, preferred mediums of communication, reasons to select an online course, the types of technology training needed, perceptions of the quality of online learning, and students that are likely to recommend online courses. The research found that half or more than half of the population require little or no training to navigate in an online course, electronic communication is preferred via e-mail and text messaging, online courses are selected due to flexible schedules, quality is favorable, and most students recommend online courses to friends and relatives. Additional studies may investigate generational differences among the perceptions of online learning, the application of real life experiences and impact on the effects and quality of online learning, level of learning, and retention. Online education prevails and has a bright future.

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RECONSIDERING THE LINK BETWEEN HUMAN RESOURCE MANAGEMENT AND FIRM STRATEGY FOR FIRMS AT THE BEGINNING AND END OF THE ORGANIZATIONAL LIFE CYCLE

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ABSTRACT

There is a general premise that effective human resource management (HRM) strategy must stem from a company's strategy, which we argue does not hold when considering a the beginning and end of the organizational lifecycle. Drawing on upper echelon and human capital theories, we develop propositions that suggest that the relationship between HRM and firm strategy in the birth and decline stages should be different than the existing HRM literature has adopted base on the model developed in mature organizations. Specifically we posit first that firms that must adapt their strategy to survive should base their strategy on the human capital available to the firm. Our arguments integrate the strategy and HRM literatures to look at the specific context of firms at the beginning and end of the organizational lifecycle to provide a more nuanced understanding of the relationship between HRM strategy and firm strategy.

Keywords: *Human Resource Management, Firm Strategy, Birth, Decline*

1. INTRODUCTION

Organizational theorists generally hold that strategy, defined as a pattern in a stream of decisions (Mintzberg, 1978), drives structure (e.g. Chandler, 1962). The human resource management (HRM) field (for a review see Boxall, Purcell and Wright, 2007; Lengnick-Hall, Lengnick-Hall, Andrade and Drake, 2009) has extended this logic, and rests almost exclusively on the premise that an effective human resource management (HRM) strategy must stem from a company's strategy (Schuler and Jackson, 1989, 2005; Arthur, 1992; Wright and McMahan, 1992; Lepak and Snell 1999). While it is limited, some research has argued a unidirectional perspective whereby firm strategy drives HRM strategy is too simplistic and that the relationship between firm strategy and HRM strategy is more complex within the context of a dynamic firm (e.g. Hall and Saias, 1980, Golden and Ramanujam, 1985).

The majority of HRM scholarship has implicitly or explicitly adopted the context of mature firms with a formal human resource management function (Huselid, 1995). The focus of this literature has traditionally been on the overall design and execution issues of HR practices and policies by business units and companies, with the underlying theme of measuring and linking management of labor with performance (Lengnick-Hall et al., 2009). However, this literature has tended to take a static view of the firm and firm strategy wherein the firm does not significantly grow or shrink, in spite of the fact that there is ample evidence that firms do evolve over a lifecycle (e.g. Miller & Friesen, 1984, Hanks, Watson, Jansen & Chandler, 1993, Cardon and Stevens, 2004).

Accordingly, a relatively new stream of research has focused on exploring the role of HR in the various organizational lifecycle stages (For example, special issues in Human Resource Management in 2003 and in Human Resource Management Review in 2006 discussed informal versus formal HRM, simple versus complex HR systems, types of HR problems they face with an emphasis on recruitment and selection as the central concern for growing a firm). For the most part, this literature has focused on either contrasting small, birth and growth stage firms with mature firms (Buller & Napier, 1993; Jack et al., 2006) or on specific HRM challenges that firms face through the lifecycle (e.g. Cardon, 2003; Ciavarella, 2003; Rutherford et al., 2003). This focus on HRM challenges and practices, however, begs the question what is the relationship between HRM and firm strategy in the different lifecycle stages?

Both of these streams of research have generally built their arguments on the assumption that firms have a strategy without acknowledging that firm strategy is not always set. This is particularly true for firms in the birth and decline stages, where firms are experiencing great change to try to adapt for survival (e.g. Chandler, Honig and Wiklund, 2005; Ferris et al., 1984) For instance, firms in the birth stage tend to not have a deliberate strategy at all (Mintzberg and Waters, 1982), and, for firms in the decline/revival stage, firm strategy can require a significant change to attempt to revive the firm's fortunes (Barker and Duhaime, 1997). Few papers have explored the relationship between firm strategy – HRM strategy for firms in the birth and decline/rebirth stages, when firm strategy is least likely to exist.

Thus, our goal in this paper is to shed light on the relationship between HR strategy and firm strategy for firms in the birth and decline lifecycle stages. Drawing on upper echelon, HRM, and lifecycle literatures, we develop a prescriptive model of the firm strategy – HR strategy link. We offer specific propositions regarding the link between firm strategy and HRM strategy within the birth and decline stages. We conclude our paper by highlighting how we extend current theories in both the field of SHRM and entrepreneurship research.

2. CONCEPTUAL BACKGROUND

There are a number of different life cycle models that have been proposed, which look at the evolution of firms (e.g. Rutherford *et al.*, 2003; Adizes, 1979; Hanks and Chandler, 1994; Kazanjian, 1988; Churchill and Lewis; 1983). Each model is based on some argument that organizations cycle go through similar, predictable stages. In each of these stages, different problems gain primacy in the organization, and they require diverse management skill sets (e.g. Adizes, 1979; Kazanjian, 1988).

The HRM literature has looked at the role of HR in the organization across the lifecycle or within a particular stage in the lifecycle. While the number of stages adopted in the HRM literature varies, recent work has focused on 4 or 5 stage models (e.g. Cardon, 2003, Rutherford et al., 2003) in the same way that the broader lifecycle literature now primarily focuses on 4 or 5 stage models (e.g. Lester and Parnell, 2008; Bonn and Pettigrew, 2009). Almost all of the commonly accepted models at this point begin the organizational lifecycle with the birth or start-up stage and have a decline/revival stage at the end of the lifecycle.

Most of the existing literature that has endeavored to utilize the organizational lifecycle model in HRM has focused on either the value of specific HR practices or HR systems in organizations throughout the lifecycle (e.g. Cardon, 2003; Ciavarella, 2003; Rutherford et al., 2003; Griffeth et al., 2006; Leung, 2003; Jack et al., 2006). The idea has been to understand the value of HRM to organizations. However, this literature generally ignores the relationship between HRM and firm strategy, and relies on the commonly held assumption that HRM has to be aligned with the existing firm strategy (e.g. Baird et al., 1988). This logic, built from the strategy-structure-fit argument, presumes firms have existing strategies and HRMs role is to make sure the firm has the employee capabilities demanded by the extant strategy fostered through a set of HR practices.

This logic rests on two fit arguments that support organizational success. First, firms align their internal talent (i.e. human resources) and HR management activities (i.e. practices) with the firm's strategy in a vertical fit fashion (Dyer, 1985). That is, the strategic goal of the firm influences decisions for managing talent. Second, these HR activities should be horizontally aligned, meaning that management uses the firm's strategy as a guiding framework wherein each HR practice is designed to support and match other HR practices to assure consistency for managing human capital, which assures congruency (Baird and Meshoulam, 1988). For example, a collaborative culture has to hire team-minded applicants, offer team skill training (conflict resolution and team building) and team-based reward compensation elements. Both vertical and horizontal fit alignments are efforts to maximize organizational outcomes (Huselid, 1995; Wright & McMahan, 1992), based on the firm's strategy. However, startups and emerging firms generally have no firm strategy from which HRM could be based on (Mintzberg and Waters, 1982), and for firms in decline, firm strategy typically needs to change in order to avoid the death of the firm as has been observed by the actions of many *Fortune 500* businesses, including Coke, Sprint, and Apple.

There are a few authors that have endeavored to look specifically at the relationship between firm strategy and HRM using a lifecycle perspective (Rutherford et al., 2003). Based on the assumption of cost, market and employee-role-behavior similarities, scholars initially took a highly condensed approach to lifecycles stages (Starbuck, 1965; Lorange and Murphy, 1983). Schuler (1989) offered a contingency framework for understanding the HR practices and policies a company is likely to adopt based on the current lifecycle stage of the organization. Drawing on an HRM perspective, Schuler (1989) assumed a pre-existing firm strategy and outlined key behaviors believed to help drive a particular strategy (e.g. cost, quality enhancement or innovation) at a particular lifecycle stage. In contrast, Lengnick-Hall and Lengnick-Hall (1988), drawing on the human capital perspective, took a different approach and mapped out a 2x2 SHRM framework focusing on a firm's growth expectations and the organizational readiness of its human capital. They delineated four different typologies based on two dimensions: organizational strategy and organizational skills.

Both Schuler (1989) and Lengnick-Hall and Lengnick-Hall (1988) provided a starting point from which we depart. Schuler (1989) assumed that the firm's strategy is a given regardless of the lifecycle. In contrast, Lengnick-Hall and Lengnick-Hall (1988) assumed that the firm's strategy is not fixed, but rather that management of human resources contributed directly to firm's strategic formulations in a growth stage. However, our central contention here is that the relationship between firm's strategy and HRM doesn't fit within the prevailing theory in the birth and decline lifecycle stages.

1.2 Firm Strategy – HR Strategy Literature

The notion of "HRM strategy" has been defined in different ways. Some scholars have emphasized a management approach that involves "the pattern of planned resource deployments and activities intended to enable an organization to achieve its goals" (Wright and McMahan, 1992: 298). That is, it is the systematic deployment of HR practices, policies and systems to drive key employee behaviors that would contribute to execute the firm's strategy (Messersmith and Guthrie, 2010; Huselid, Jackson and Schuler, 1997; Schuler and Jackson, 2005). Others have deemphasized the management angle and focused on the human capital – the talents/knowledge, skills and abilities (KSA's) of the workforce as part of HR strategy (Erhardt, Martin-Rios and Way, 2009; Lepak and Snell, 2002; Lepak, Bartol and Erhardt, 2005; Martin-Rios and Erhardt, 2008; Way and Johnson, 2005; McMahan, Virick and Wright, 1999). The human capital approach commonly utilizes the resource-based view (RBV) (e.g. Barney, 1991) as a theoretical backdrop whereby HRM scholars argue that human capital (as it is valuable, rare, inimitable, and non-substitutable) can contribute to a competitive edge and set it apart from competitors.

While we recognize that important scholarship has occurred in both camps, we draw on the latter view, which holds that human capital is the foundation for HR strategy in this paper. Our rationale for this conceptualization of HR strategy is that firms that operate in different stages of the lifecycle may not have many formal HR practices such as recruitment, training and compensation, especially in early lifecycle stages. Yet, human capital exists within a firm involving people regardless of the stage of the organizational lifecycle the firm is in, which has implications for the firm's business strategy.

Drawing on the human capital argument built out of RBV (Barney, 1991; Wright, Dunford & Snell, 2001), HRM has offered extensive support linking management of employees' competencies with a positive impact on firms' financial bottom line (e.g. Hitt, Bierman, Shimizu and Kochhar, 2001; Lado & Wilson, 1994; Pennings, Lee & Van Witteloostuijn, 1998). Youndt, Snell, Dean and Lepak (1996) offered evidence that human-capital-enhancing HR systems can have significant bottom line results in their study on manufacturing firms pursuing a quality strategy. Snell and Dean (1994) noted that human capital adds value based on the enhanced productivity generated by a system of HRM practices to further advance employee knowledge, skills and abilities (KSAs). The assumption made by the proponents of human capital HRM approach is that an existing firm strategy guides human capital enhancing HRM efforts. However, while the notion that firm strategy dictates what talent is needed is valid in stable and mature firms, it may not always hold, because as the firm experiences different stages of its lifecycle, the link between firm strategy and HRM strategy should change along with the rest of the firm. While having firm strategy guiding the acquisition and retention of human capital can help foster and sustain a competitive edge for mature firms, in other circumstances, it can have detrimental effects and actually create barriers and impact firm performance negatively if firm strategy does not consider the existing human capital.

For instance, in the top management team literature (TMT), top management's human capital is considered an important driver of adaptation by the firm as it strives to survive in a changing environment (e.g. Boeker, 1997; Wiersema and Bantel, 1993). Building on this perspective is especially relevant for scholarship focused on firms in both the birth and decline stages that still need to integrate HRM strategy and firm strategy to achieve superior performance (e.g. Finegold and Frenkel, 2006; Messersmith and Guthrie, 2010). The human capital argument for firm performance is particularly interesting in small high-growth startups, as founder's knowledge and experience can have a profound impact on the firm's direction. Along these lines, the type of human capital the firm has can contribute to the nature of how employees are managed even if formal practices are yet to be developed. For example, Welbourne and Cyr (1999) found that smaller, fast-growing IPOs (initial public offerings firms) reap the most gain from having senior human resource executives. While they did not explore the actual HR practices in place, the mere HRM executive presence appeared to have positive impact on firm performance. Building on their findings and the broader TMT literature suggesting that changes in top management serve as an adaptation mechanism, we argue that when firms need to change their strategy to adapt, they should do so based on their human capital.

3. TOWARD A CONCEPTUAL FRAMEWORK

Having identified a gap in current knowledge on the relationship between firm strategy and HRM in the birth and decline stages of the organizational lifecycle, we now present a conceptual framework that offers testable proposition.

3.1 The Birth of the firm -

The organizational lifecycle begins with the birth of the firm wherein organizations are characterized by "entrepreneurship, management by informality, and limited products and markets" (Baird and Meshoulam, 1988: 118). At the start of a firm, the entrepreneur or venture team, referred here to as founders, is looking for the ability to translate the idea of the firm into action (Kamm and Nurick, 1993). In the birth stage, the firm has few if any formal functions (Hanks, *et al.*, 1993), and the founders are in charge of virtually all business-related activities. Below, we explore the link between the founders' human capital and emergent firm strategy in the birth stage.

Birth stage firms are evolving and rapidly changing (Schindehutte and Morris, 2001). In addition, they often face severe resource constraints (e.g. Baum, 1996) and face concerns about their legitimacy (e.g. Singh, Tucker and House, 1986). In spite of empirical evidence which suggests that it may be advantageous for entrepreneurial firms with ambitious growth plans to engage HR professionals (Finegold and Frenkel, 2006) and formal HR systems (Messersmith and Guthrie, 2010), most entrepreneurial firms manage human resources informally, and rely on the founders (Heneman, Tansky and Camp, 2000; Leung, 2003; Hayton, 2008; Taylor, 2006). Founders generally handle all HR-related activities including recruiting talent often based on informal social networks (Leung, 2003). Critically, no HR function, HR professionals, or formal HR practices generally exist in these firms at this stage, yet human capital is essential for the survival and success of the firm.

Whether HRM in the birth stage firm is informal or formal, relying on the firm's strategy to make decisions about how to manage human capital is problematic. For most new entrepreneurial firms, the decisions that will define the company's strategy are as yet unmade and must be shaped by the founders (e.g. Chandler and Lyon, 2001). Strategy in entrepreneurial organizations is often a mix of deliberate and emergent strategies (Mintzberg, *et al.*, 2005). The emergent strategy, which becomes the firm-level strategy for most organizations in the birth stage, evolves, in part, from actions in the competitive market (Mintzberg and Waters, 1985) and, more relevant here, from the founders' knowledge, skills and abilities (i.e. human capital). As the firm engages the broader market, the leadership team makes decisions day in and day out with the intention to grow the business.

Accordingly, the notion of HRM strategy at the birth stage is primarily represented by the acquisition and maintenance of the human capital of the founding team and early employees (Lado and Wilson, 1994, Ensley et al., 2002). The initial human capital is what the emerging firm builds its strategy on (e.g. Kazanjian, 1988), and the composition of the team's combined knowledge and experiences are critically important to the success and survival of the firm (e.g. Schein, 1991; Erhardt, Werbel and Shrader, 2003). This fact in particular is what drives venture capital (VC) backed ventures to install a new top management team if an idea shows promise but the founders are unlikely to be up to the challenge. In the birth stage, the formation of a strategy is particularly dependent on the talent of the founders and the way they view the possibilities for a successful venture.

Specifically, venture capitalists are known to prefer a “B” idea with an “A” management team to an “A” idea with a “B” management team (Kazanjian, 1988; Byrne, 2000; Zacharakis and Meyer, 2000). This preference comes from the belief that almost nothing is controllable in a new firm except the new venture team and its talent. With a small number of team members making decisions in most new ventures, selecting one bad person, either as an addition or through retention, has a disproportionate effect on the firm by virtue of its small size (e.g. Chandler et al., 2005). The strategic element of HRM in the birth stage is having the right people with the right capabilities and experience in place to deal with current and potential needs of the firm given changing market and competitive conditions (Rutheford, *et al.*, 2003).

For example, in many instances, investors will be presented with a founder who has a promising technology, but limited experience running an organization without a well developed business strategy. If they find the opportunity attractive enough, they will seek to add value to the enterprise, and protect their investment, by bringing in a set of individuals with the right capabilities and prior experience needed to move the business forward in a particular domain (Beckman, Burton and O’Reilly, 2007). They pick these individuals not to execute a particular strategy, but rather to have the right team composition to create a strategy in response to technological and market shifts, understanding that the original business plan is rarely the one that produces success.

The decisions that new firms make that determine the emergent strategy are made on the basis of the founders’ shared sensemaking about the reality of the competitive environment (e.g. Mintzberg and Waters, 1985; Hill and Levenhagen, 1995). It is the human capital of the founders that determines the way founders see the world (Levenhagen, Porac and Thomas, 1993) as they seek to respond to the competitive market. It is the founders’ existing human capital that allows the firm to develop a firm strategy necessary for growth (i.e. firm performance) (Gulati and Higgins, 2003). Hence, firm strategy at the birth stage, should be set on the basis of the human capital of the founders, as it is combination of their knowledge, skills and abilities that allows for an effective and viable firm strategy. Not only should strategy be set based on the talent in the firm, but given the very real lack of resources most birth stage firms face, it would be inefficient for entrepreneurial firms in the birth stage to develop a strategy first and then strive to build a human resources strategy that was optimized to fit the firm strategy. We propose the following:

P1: In the birth stage of the organizational lifecycle, HRM strategy, in the form of human capital should drive emerging firm strategy.

3.2 The rebirth (or decline) of the firm -

As firms become more established and successful, they develop institutionalized sets of capabilities and routines (Hannan and Freeman, 1984). However, at some point, all firms begin to decline. Cameron, Sutton and Whetten (1988) defined decline as involving the reduction of internal resource munificence, both financial and managerial, over time. For many, if not most of these declining firms, the dominant firm strategy the firm was pursuing prior to entering decline is no longer suitable to the competitive environment (D’Aveni, 1989). For firms in the decline stage of the lifecycle, firms either fail completely or experience significant declines in their markets, translating into shrinking organizations. Not all firms that enter decline die, however (Ferris, *et al.*, 1984); of particular interest theoretically are those firms that begin to decline and work to adapt to their new situation by focusing on their talent and changing strategy to revive their fortunes.

To date, scholars have given only cursory attention to the role of HRM in reviving the firm. Of the few exceptions, scholars have generally outlined differences in HR practices as a firm moves into decline (Lengnick-Hall and Lengnick-Hall, 1988; Jackson & Schuler, 1995). For example, drawing on Miller & Friesen’s (1984) fours stage lifecycle model (introduction, growth, maturity, decline/revival), Ciavarella (2003) argued that the sophistication of HR systems are the lowest in the introduction stage and increased in growth and maturity. He further argued that firms that experience revival have higher levels of HR systems than those that continue to decline. Cardon (2003) found evidence that firms trying to move from decline to growth through diversification make careful considerations around hiring and integrating a contingent workforce, which in turn impacted growth and productivity. While this literature has offered important insights to research on HRM-decline/revival lifecycle stage, the role of the firm's strategy remains absent in the discussion, and seems to hold the same underlying assumption that a firm strategy exists to guide HRM changes.

In contrast, in the strategic management literature, Hall and Saias (1980) argue that while it may be the case that for a given strategy structure must move to accommodate it, during times when strategy is being formulated or reformulated, structure serves to bind the available choices. This suggests that firm strategy does not necessarily have to precede HRM when the firm must change. They further argue that as a new strategy emerges, the context, including HRM, cannot be ignored. Top management's actions are limited by the possibilities they see and the organization they operate within when they are formulating strategy (Hill and Levenhagen, 1995).

A few theoretical and empirical contributions follow similar thoughts. For example, Wright and Snell (1998), in their discussion about building both fit and flexible HR systems simultaneously, pointed out that the strategic choice of one company is driven by the mission and goals of the company. More importantly, they argued that the firm strategy- HR system relationship is to some degree contingent upon the internal strengths and weaknesses of the firm's human capital. This relationship was illustrated in their study of recruitment by NCAA basketball teams. They argued that depending on the strengths and weakness of a particular season's talent, the team's strategy would follow. Their logic was that coaches cannot fully control who or what talent will ultimately be acquired or be available for the season, thereby necessitating the development of strategy that fits the human capital the team possesses during any given season. These arguments make a case for talent serving to inform strategy when a change in strategy is necessary, as it most certainly is when a firm or team is in decline. Given the need for a new strategic plan to aid in the revival of an organization, we argue that human capital, especially at the upper echelon, should play a key role in the new strategy that is chosen, as has been argued in the TMT (e.g. (Finkelstein and Hambrick, 1996; Hambrick and Mason, 1984) and strategic change literature (e.g. Boeker, 1997).

While the existing employees within the firm are a key factor when considering a new strategic path for the firm, many organizations choose to first turn their focus to the very top, replacing their top management team in search for a new strategy with the hope of turning around the declining business (Hambrick and Mason, 1984). For example, Apple Computer's declines in the 1990s' brought the company to the brink of failure, and it was only by changing the talent at the top (by bringing back Steve Jobs in 1997) that the firm hit upon a strategy that would work. Indeed, this same scenario has played itself out time and again in declining companies where changes in strategy, after the firm enters a period of decline, are based on new TMT human capital (e.g. Coke in 1980 with Roberto Goizueta, Sprint Nextel in 2007 with Dan Hesse, GM in 2010 with Ed Whitacre Jr.). A new strategy is possible to the extent that new top management human capital guides it, and the organization has the human capital to implement it (Ferris et al, 1984).

New CEOs are selected based on their knowledge, skills, and abilities (i.e. human capital). This is true whether the new CEO is an executive selected and promoted from within, or executive talent from outside (Hambrick and Mason, 1984). This new leadership is put in the position because the owners and/or board of directors believe they have the talent necessary to generate a new strategy that can save the firm from further decline. Drawing on their experiences and skills, these new executives are empowered to put forth a new direction based on what they see as the most viable option; they are not brought into the company to continue with the current firm strategy. A new strategy will emerge as the new top management team goes through a due diligence process identifying strengths and weakness of current operations, market competition (e.g. Boeker, 1997), as well as current and potential human capital of the firm that can be successfully implemented. Thus, formally:

P2: In the decline stage of the organizational lifecycle, HR strategy, in the form of top management team human capital, should drive the development of a new firm strategy.

4. DISCUSSION

4.1 Theoretical Contributions

In contrast to the mainstream HRM literature that assumes a pre-existing firm strategy on which HRM strategies are built, our model suggests that in the birth and decline stages of the organizational lifecycle, this relationship should be reversed, with HRM, in the form of talent, driving the choice of firm strategy. In the birth stage, firms should rely on the new venture team's talent and knowledge, skills and abilities to guide development of an emergent strategy. At the beginning of the lifecycle, management uses informal mechanisms as the foundation for how employees are hired and managed. The initial founders and members of the entrepreneurial team brought into to the firm are the human capital that informs the firm's strategy. As the firm moves beyond the birth stage, the firm's strategy necessarily becomes more deliberate and begins to guide future HR strategy, falling in line with the extant SHRM perspective on this relationship (Baird and Meshoulam, 1988; Jackson & Schuler, 1995; Rutherford et al., 2003). Also, in the final stage, decline, firm strategy once more is uncertain. As the firm faces the possibility of organizational death, a new firm strategy is necessary if the firm is to be revived, and as outlined above, a successful new strategy is likely driven by the knowledge, skills and experience (i.e. human capital) of the top management team.

Both the birth and decline stages provide a unique context for the relationship between firm strategy and HRM in firms that should not be limited by theory developed in mature firms. The overwhelming presumption of the HRM literature is that firms have strategies and so the role of HRM is somewhere between administrative service to the strategy and integrated with firm strategy (Golden and Ramanujam, 1985). Golden and Ramanujam (1985) suggest that companies adopt a level of HRM integration based on factors such as the business strategy itself. However, as we explore above, it is not necessarily the case that firms have a set strategy to guide HRM. In situations where firms do not have a deliberate strategy, or where the firm must significantly change its strategy to attempt to revive its fortunes, we argue that human capital guides the development of a (new) firm strategy.

4.2 Direction for Future Research

We argue that in the birth stage, the founders/entrepreneurial team, in response to the environment, sets firm strategy as the entrepreneurial team coalesces. There is some literature in entrepreneurship that has looked at the impact of changes in the entrepreneurial team on performance (e.g. Chandler et al., 2005) with an eye toward the impact of the level of heterogeneity/homogeneity on team performance (e.g. Amason et al., 2006; Li, 2008). There is not, however existing research exploring when, why and how the team itself develops an understanding about who to add or subtract from the team, which affects the human capital available to the firm. In light of our arguments and related evidence about the impact of the team on the strategy of firms in the birth stage (Ensley et al., 2002), this is an area that future research should look closely at to develop our understanding of how firms can manage the process of entrepreneurial team change as effectively as possible, while also informing our understanding about whether certain team types pursue different strategies based on their human capital.

Prior literature looking at the birth stage of the organizational lifecycle has linked the existence of formal HR mechanisms with superior performance in early stage firms (e.g. Messersmith and Guthrie, 2010 with high performing work system and Finegold and Frenkel, 2006 with HR professionals), suggesting that these firms should engage HR practices and HR professionals early in the lifecycle. Our model assumes that organizations in birth stages do not have formal HR practices (Cardon, 2003; Ciavarella, 2003; Rutherford et al., 2003), yet human capital is needed for the organization's existence. We believe that more empirical research is needed to better understand how the formal human resource management in early phases evolves. A better understanding of this process could potentially have important implications for small start-ups that are trying to grow their business and with the help of a functional administrative component.

Likewise, the founders' values that drive so many of the decisions in the firm in the birth stage link to HR philosophy. Schuler (1989) suggested that HR philosophy is a guiding force for the type of people a company needs and how they ought to be treated. While HR management philosophy has generally been discussed with a focus on established firms (Lepak, *et al.*, 2007; Schuler, 1992), when firms in the birth stage do not have a formal business strategy, matching an HR philosophy with a strategy is premature. Yet, HR philosophy is particularly relevant for these firms as it is this philosophy, rather than any HR policies or professionals that may drive management of early talent, organizational and culture-forming decisions. As the firm engages the market and works on turning vision into strategy, it must add people. It would be interesting for future research to investigate how HR philosophy drives management of talent in the birth stage of the lifecycle. If talent drives firm strategy, then further research into HR philosophy would be useful for understanding possible links between HRM and firm strategy.

5. CONCLUSION

Our model suggests that the relationship between HRM and firm strategy in the birth and decline stages should be different than the existing literature has adopted base on the model developed in mature organizations. We have offered propositions that advance our understanding of this relationship in these stages. Specifically we posit that firm strategy is driven by HR strategy, in the form of human capital acquisition and maintenance, in the birth stage and decline stages. We hope our model provides additional ideas as to the role human capital strategy in firm strategy formulation in the context of the birth and decline lifecycle stages. More theoretical and empirical research are clearly needed to expand on our arguments, and we believe our arguments should be the basis for advancing our understanding of the role of HR strategy in developing firm strategy when strategy is not set.

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THIRD-PARTY PAYMENT SYSTEM AND COST CONTAINMENT: EXAMINATION OF PRIMARY CARE PHYSICIANS' COST PROFILE AND PATIENT SATISFACTION

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ABSTRACT

This research examined primary care physicians' cost profiles and related them to patients' satisfaction with the access and treatment. We attempted to present data for the improbable goal of cost containment in the third-party payment system of the healthcare industry. A large number of health care claims data (total 2,272 claims) were obtained from a health plan of a large public sector employer based in Central Florida, and were sorted by physicians. The sorted data were matched by the physicians with their patient satisfaction survey data (n=2,137 returned responses) collected by a third-party independent healthcare service consultant group. Eventually, 32 primary care physicians were identified and properly matched with their patients who returned the satisfaction survey responses. Contrary to the claim that physicians are pressured, and succumb to the pressure, to lower the cost by the insurance company, the result of this data analysis indicates that patients are more satisfied with high-cost physicians. Wellness of the patients is moderately related (positive) with high-cost physicians, who are also more accessible. Findings in this study confirm the age-old problem of the third-party payment system for cost containment, and raise an important social policy issue. Even with the tremendous society-wide effort to contain the health care cost, the risk of physicians committing Type 2 error, declaring a sick person well, is simply too high. Physicians would prefer more expensive diagnostic tools and treatment options rather than the other way around. Physicians are an agent of their patients and work for the best interest of their principle after all.

1. INTRODUCTION

The provider-patient interaction is the core component of any health care system. Providers such as physicians or hospitals render services to patients. In turn, patients rely on physicians to diagnose and treat their health care needs. The physician making the initial diagnosis treats the condition or refers the patient to another physician, a diagnostic facility, or other providers. Therefore, the physician's initial diagnosis and treatment plan determine the course and cost of the treatment.

Most patients access the health care system through their primary care physician. The term *primary care physician* includes general practitioners, and those physicians specializing in family practice, general internal medicine, and pediatrics. Therefore, primary care physicians serve as the patient's most important access point to medical care.

Physicians acts as an agent for their patients and the payer. Patients rely on their physician's professional judgment for obtaining appropriate health care, and the payer expects the physician to spend prudently premium dollars. The dual agency role puts the physician at the intersection of the patient's and payer's interests. The physician faces a conflict when these interests do not align.
Patients may prefer services not seen as necessary by the payer. If the physician renders the preferred services, the patient will be satisfied. However, the payer may be dissatisfied because of the additional costs. The researcher analyzed this problem in this dissertation.

Previous studies (e.g., Baicker, Chandra, Skinner, & Wennberg, 2004; Skinner, Wennberg, Fischer, Stukel, & Sharp, 2004; Weinstein, Sporer & Wennberg, 2003) showed considerable variation in how physicians treat a given diagnosis, even after adjusting for patient differences. *The Dartmouth Atlas of Health Care* (The Center for the Evaluative Clinical Sciences, 1998) illustrated these variations for 3,500 hospital service areas across the United States. Patient differences did not explain these variations. Payers and policy makers argue that the cost and quality of health care can improve if physicians change their practices and follow best practice guidelines.
Grol (1997) and Smith (2000) in reviews of the scientific literature identified education, academic detailing, reminders, audit and feedback, guidelines and economic incentives as techniques to change physician

practices. Smith concluded that the effectiveness of applying a single technique is minimal and that combinations of different techniques may be more effective.

The patient is the other component of the provider-patient interaction. Studies showed that patient satisfaction influences physician behavior (Rider & Perrin, 2002), and adherence to treatment (Vermeire, Hearnshaw, Van Royen, & Denkens, 2001). Further, patient satisfaction affects the risk of malpractice claims (Hickson, Federspiel, Pichert, Miller, Gauld, & Bost, 2002), intent to change physician (Keating, Green, Kao, Gazamararian, Wu, & Cleary, 2002; Federman, Cook, Phillips, Puopolo, Haas, Brennan, et al., 2001; and Zoller, Lackland, & Silverstein, 2001), and physician satisfaction (Haas, Cook, Puopolo, Burstin, Cleary, & Brennan, 2001). Therefore, dynamic tension manifests the relationship between physician practice patterns and patient satisfaction.

Previous studies focused on the relative merits of physician profiles (Kluge, 2000; Hall, Violoato, Lewkonia, Lockyer, Fidler, Toews, et al., 1999) and patient satisfaction surveys (Keating et al., 2002; Federman et al., 2001; Markham, Diamond, & Hermansen, 1999). There is no uniform definition of the term “physician profile”.

The term “physician profile” has different meanings for different audiences. For example, insurance companies may publish “physician profiles”, but mean physician directories. These directories contain physician demographic information and office location addresses. A professional liability insurance company uses “physician profile” to describe the presence or absence of professional liability claims for specific physicians.

Regulatory Boards use “physician profiles” to capture licensing data. In the academic literature examining changes in physician practice patterns (e.g., Grol, 1997; Smith, 2000), physician profiles form the basis to educate, audit and provide feedback, develop guidelines, and determine economic incentives for physicians. Therefore, physician profiles serve an important role in changing physician practices. While researchers have extensively studied physician profiling and patient satisfaction, there is a lack of scientific inquiry into the relationship between physician cost profiles and patient satisfaction survey results. This study focuses on the physician’s cost profiles and their relationship to the patient satisfaction.

Research Question and Competing Hypotheses

The research question we focused in this study is: “Is there a relationship between primary care physician cost profiles and patient satisfaction?” Depending on whose interest between patients or payers that physicians would like to serve the most as an agent, two obvious alternative and competing hypotheses are possible, either positively or negatively related between the physician cost profiles and the patient satisfaction.

Health plans use financial incentives to reward physicians for low costs and high patient satisfaction (Kowalczyk, 2002; Becky Cherney, personal communication February 23, 2004). Incentives include bonus arrangements and referrals of new patients on a preferred basis. Penalties may include the threat of termination from the provider network.

The physician acts as both the patient's and payer's agent. In the former, the physician and patient enter into an informal contract. The patient expects the physician to treat an illness in return for receiving payment from the patient and a payer such as an insurance company.

In the latter, the physician enters into a formal contract with a provider network, or a payer such as an insurance company or self-insured employer, or a governmental agency, for example, the Medicare program. These contracts define the payer-physician agency relationship.

As the physician discharges his or her agency responsibilities, "There will be some divergence between the agent's decisions and those decisions which would maximize the welfare of the principal" (Jensen & Meckling, 2001, p. 285). From the perspective of the payer-principal, physician decisions result in medical costs. Payer-principals compare medical costs caused by an individual physician against physician peers and the payer-principals' expectations.

From the patient-principal perspective, physician decisions result in the treatment of an illness. The degree of satisfaction with the physician's decision is an indicator of divergence. If the divergence is small, the physician maximized the patient's welfare, and the patient is satisfied.

A number of studies investigated this divergence from both the payer-principal and patient-principal perspective. For example, Reinhardt (1999) and others argued that physicians follow the "economic man" theory: physicians try to maximize their utility manifested in, for example, providing unnecessary services, scheduling frequent return visits, and complying with patients' requests even if not clinically indicated. Thornton and Kelly (1998) argued that physicians behave consistent with economic theory and, therefore, try to maximize their utility.

Glied and Zivin (2002) found evidence for this behavior. Fee-for-service patients had longer visits than HMO patients did within the same physician practice, Further, Mitchell, Hadley, Sulmasy, and Bloche (2000) found that physicians might decrease services when physicians believe their action might negatively affect their income). Shortell, Waters, Clark, and Budett (1998) found physicians to act as "double agents", representing both the interests of their patients and physicians.

In contrast to studying the physician as an agent, Hoff (2001) discussed the role of the physician as a worker. Organizational dynamics and the physician's characteristics affect the physician's behavior. Hoff's perspective may in part explain geographic practice variations as illustrated in *The Dartmouth Atlas of Health Care 1998* (The Center for the Evaluative Clinical Sciences, 1998). Physicians responding to peer pressure and organizational dynamics may attempt to practice with a minimum of divergence from accepted community norms.

Payers have implemented physician incentive programs that reward physicians for low cost and high patient satisfaction. The researcher tested the underlying assumption of these incentive programs: Patients value lower medical cost, and therefore, if costs are low, have higher patient satisfaction compared to those physicians with high costs.

This assumption seems to be in conflict with the agency theory. Patients expect the primary care physician to act in the patient's best interest. For insured patients, the costs of the treatment are of minor interest. Except for deductibles and co-payments, insurance shields patients from the financial consequences of a given medical treatment. Therefore, consistent with the agency theory, the patient expects the physician not to consider the costs of treatment when recommending a treatment plan to the patient. If the physician implicitly or explicitly considers costs in the decision process, the physician violates the agency contract with the patient. As a result, the agency contract between patient and physician calls for medical decisions unfettered by costs. Stated differently, patients prefer more services to fewer services, and more services translate into higher costs.

2. RESEARCH METHODS

Sample:

Health care claims data for a Central Florida public sector employer with more than 15,000 covered lives was obtained from the employer's Third Party Administrator (TPA). From this data, one hundred physicians with the specialties Family Practice, Internal Medicine, Obstetrics/Gynecology, Gastroenterology and Cardiology were randomly selected for a patient satisfaction study. Based on the same health care claims data, for each of the one hundred physicians, sixty patients were randomly selected for patient satisfaction surveys.

From these one hundred physicians, primary care physicians (Family Practice and Internal Medicine) with at least ten returned patient satisfaction surveys are included in this study, resulting in a data set of 32 primary care physicians (22 Family Practice, 10 Internal Medicine). There is no demographic information available for the primary care physicians included in this study versus those primary care physicians participating in the provider network (N = 422, 217 Family Practice and 205 Internal Medicine).

Measurement:

For the construct primary care physician cost profile, thpe study uses health care claims data obtained from the employer's third-party administrator. MEDecision, Inc.'s Practice Review System (PRS) was used to convert the claims data into physician profiles with the operationalized variables "Primary Care Physician (PCP) cost", "Professional cost", "Facility cost", "Medication cost" and "Total cost." For each of these dimensions, MEDecision's PRS calculates an average cost per episode of care. Episodes of care include all costs for a particular spell of illness. Therefore, episodes of care are time-bound. For example, the episode of care for the common cold is shorter than the episode of care for hypertension. Comparing physicians on an episode of care basis allows conclusions about how physicians treat patients with similar diagnosis.

The provider network ran run the primary care physician cost profiles for each primary care physician with at least ten patient satisfaction survey result. Primary care physician costs include the costs of services rendered by the primary care physician. Professional costs include the costs of all other professionals for services rendered to patients of the primary care physician.

Facility costs include the costs of services rendered in facilities, e.g., a hospital, to patients of the primary care physician. Medication costs include the costs of prescriptions written for patients of the primary care physician. Total costs are the sum of primary care physician costs, professional costs, facility costs and medication costs.

MEDecision's PRS physician cost profiles are risk adjusted: For each physician's patient population, PRS calculates a burden-of-illness score (BOI). The physician's BOI is compared to the BOIs of the peer physicians. Physicians included in the peer group have similar patient population characteristics. Therefore, physicians with a BOI score different from the average BOI score for the peer group have a healthier or sicker patient population than the peer group as a whole.

The patient satisfaction was based on a patient satisfaction survey conducted by the Central Florida Health Care Coalition (CFHCC) for beneficiaries of the large public sector employer. CFHCC is a Central Florida employer group focused on improving the cost and quality of health care for its members and their beneficiaries as well as for the Central Florida community.

CFHCC's survey instrument was a modified version of the Consumer Assessment of Health Plans Study (CAHPS®) 2.0 Adult Core Survey. Similar to CAHPS®, the answers to the questions of the CFHCC patient satisfaction survey instrument were aggregated into the composites "access", "care", "wellness", and "satisfaction."

Data Collection Procedure.

The researcher obtained permission from CFHCC to access the CFHCC patient satisfaction survey results, which also were used to identify primary care physicians included in this study. The process was as follows:

1. The patient satisfaction survey results were arrayed by physician in descending order based on the number of surveys returned for each physician.
2. Primary care physicians were identified by accessing the provider network's physician directory and searching for physicians with the specialties of "Family Practice" and "Internal Medicine".
3. Primary care physicians with more than ten patient satisfaction survey returns were identified by comparing the patient satisfaction survey results array with the primary care physicians identified in step 2. The list of primary care physicians to be included in this study was forwarded to the provider network. The provider network ran primary care physician cost profiles for each physician identified in step 3 using the MEDecision PRS.

We agreed not to release any data that would allow the identification of survey respondents or physicians.

3. RESULTS AND DISCUSSIONS

Descriptive statistical summaries of the major variables in the study are tabulated in Table 1. Notice that the primary care physicians costs are quite widely varying from average cost of $567 to $2,711 with standard deviation of $465. Even the 'Burden' index of illness varies from 2,477 (lowest) to 4,587 (std dev of 563). It is not surprising, considering these wide variations, to see the variation in number of patients from 79 to 639 (std dev of 143). Table 2 presents correlation coefficients among various cost items, which shows high correlation among them: Apparently, physicians who used expensive facility charge more on medication and thus drive up the overall cost. However, it is noteworthy that PCP costs do not go with other costs: correlations between PCP cost and other costs are small and insignificant.

Table 1 Descriptive Statistics Primary Care Physician Cost Profiles

Dimensions	Minimum	Maximum	Mean	SD
PCP Costs	$80	$199	$133.00	$33.13
Professional Costs	$313	$1,359	$546.38	$227.93
Facility Costs	$83	$947	$268.84	$191.89
Medication Costs	$115	$416	$242.25	$79.57
Average Costs	$567	$2711	$1057.53	$465.00
Burden of Illness	2477	4587	3287.87	536.39
# of patients	79	639	253.88	143.91
# of respondents	10	44	28.25	9.31
Access	65.2	91.4	78.55	7.29
Care	73.9	98.8	89.95	6.24
Wellness	50.1	88.7	71.29	11.76
Satisfaction	78.9	98.1	90.21	5.50
Impairment	9.1	21.7	13.73	2.89
Internal Medicine	0	1	0.31	0.47
Family Practice	0	1	0.69	0.47

Note: PCP Costs refers to Primary Care Physician CostsNote: PCP Costs refers to Primary Care Physician Costs; Sample size for the physician cost profiles is n=32; total sample size of the patient satisfaction is n=2,137.

Table 2. Pearson Correlation Between Primary Care Physician Cost Profile Dimensions

Dimension	PCP Costs	Professional Costs	Facility Costs	Medication Costs	Average Costs
PCP Costs	1.000	0.131	-0.022	-0.095	0.039
Professional Costs		1.000	0.855**	0.658**	0.956**
Facility Costs			1.000	0.728**	0.957**
Medication Costs				1.000	0.794**

Note: ** $p < 0.01$, N = 32; PCP Costs refers to Primary Care Physician Costs

Patient Satisfaction

We had access to the 2137 patient satisfaction survey return data used to construct the patient satisfaction. The survey questions were meaningfully broken down into the five patient satisfaction dimensions including access, care, wellness, impairment, and general satisfaction (satisfaction). The reliability test produced Cronbach Alphas of 0.69 for “access”, 0.83 for “care”, and 0.71 for “wellness”. “Impairment” had a Cronbach Alpha of 0.89.

Out of 32 primary care physicians who were included in the cost profiles, 22 primary care physicians were Board certified or eligible in the physician specialty of family practice and 10 primary care physicians in the physician specialty of internal medicine. These physicians had between 79 and 639 patients (mean 253.88). Patient satisfaction surveys returned for these physicians were between 10 and 44 (mean 28.25).

Table 3. Correlations Between Primary Care Physician Profile Dimensions and Patient Satisfaction Dimensions

Dimensions	Burden of Illness	Access	Care	Well	Sat	Impair
PCP cost	0.394*	0.205	0.357*	0.427*	0.344	0.060
Non-PCP cost	0.287	0.051	0.195	0.172	0.165	0.388*
Facil cost	0.304	0.228	0.243	0.151	0.238	0.208
Med cost	0.435*	0.340	0.455*	0.389*	0.433*	0.148
Total cost	0.368*	0.192	0.299	0.243	0.277	0.304

Note: * $p<0.05$, **$p<0.01$, N = 32; PCP Costs refers to Primary Care Physician Costs

Regression Analyses

Multiple regression analyses were conducted to examine contributions (causal effect) of physician profiles to the patient satisfaction. For the dependent variable of access (patients accessibility to their physicians), the analysis produced statistical significance of $p<.10$ level with R^2 of 0.29. See Table 4. Medication cost contributed significantly (Beta of 2.883, $p<.01$) to patient satisfaction of Access. Beta weights of other variables showed expected direction but without meaningful statistical significance.

Table 4. Physician Cost Profile and Patient Satisfaction of Access (Dependent Variable).

	B	*Std. Error*	*Beta*	*T*	*Sig*	*R*	*R2*[2]	*F*	*P-value*
(constant)	63.436	12.517	--	5.068	0	0.54	0..29	2.11	0.097
PCP cost	7.177E-02	0.050	0.243	1.422	0.167				
Non-PCP cost	-2.803E-02	0.015	-0.652	-1.878	0.072				
Facility cost	2.219E-02	0.019	0.438	1.159	0.257				
Medication cost	4.492E-02	0.016	0.649	2.883	0.008**				

Note: ** p<0.01, N = 32; PCP Costs refers to Primary Care Physician Costs

For the patient satisfaction of care, contributions of the physician cost profiles produced statistically significant results (R^2 score of 0.40; p<.01). See Table 5. Observed costs significantly contributed to the patient satisfaction with care. See Table 5. The dimensions PCP cost (Beta= .417; p<.01) and medication costs (Beta=.681; p<.01) were significantly contributed to the patient care.

Table 5. Physician Cost Profile and Patient Satisfaction of Care (Dependent Variable).

	B	*Std. Error*	*Beta*	*T*	*Sig*	*R*	*R2*[2]	*F*	*P-value*
(constant)	69.448	5.222		13.299	0	0.64	0.40	4.55	0.006
PCP cost	0.079	0.028	0.417	2.786	0.010**				
Non-PCP cost	-0.005	0.008	-0.198	-0.661	0.514				
Facility cost	-0.002	0.010	-0.072	-0.225	0.824				
Medication cost	0.053	0.017	0.681	3.088	0.005**				

Note: ** p<0.01, N = 32; PCP Costs refers to Primary Care Physician Costs

For the patient satisfaction of wellness, the physician cost profiles produced statistically significant results (R^2 of 0.42; p<.01) . Observed costs were significantly contributed to the patient satisfaction with wellness. See Table 6. The dimensions PCP cost (Beta = .484; p<0.01) and medication costs (Beta=3.101; p<0.01) were significantly contributed to the patient wellness.

Table 6. Physician Cost Profile and Patient Satisfaction of Wellness (Dependent Variable).

	B	*Std. Error*	*Beta*	*T*	*Sig*	*R*	*R2*[2]	*F*	*P-value*
(constant)	29.523	9.695		3.045	0.005	0.65	0.42	4.904	0.004**
PCP cost	0.172	0.052	0.484	3.282	0.003**				
Non-PCP cost	0.002	0.015	0.029	0.099	0.922				
Facility cost	-0.022	0.019	-0.354	-1.119	0.273				
Medication cost	0.100	0.032	0.674	3.101	0.004**				

Note: ** p<0.01, N = 32; PCP Costs refers to Primary Care Physician Costs

For the general patient satisfaction, contributions of the physician cost profiles produced statistically significant results (R^2 score of 0.38; p<.01). See Table 5. Observed costs significantly contributed to the general patient satisfaction. See Table 7. The dimensions PCP cost (Beta= .402; p<.01) and medication costs (Beta=.649; p<.01) were significantly contributed to the general patient satisfaction.

Table 7. Physician Cost Profile and General Patient Satisfaction (Dependent Variable).

	B	*Std. Error*	*Beta*	*T*	*Sig*	*R*	*R2²*	*F*	*P-value*
(constant)	73.180	4.704	--	15.56	0	0.62	0..38	4.10	0.010**
PCP cost	6.679E-02	0.025	0.402	2.629	0.014**				
Non-PCP cost	-7.166E-03	0.007	-0.294	-0.962	0.345				
Facility cost	8.316E-04	0.009	0.029	0.088	0.930				
Medication cost	4.492E-02	0.016	0.649	2.883	0.008**				

Note: ** p<0.01, N = 32; PCP Costs refers to Primary Care Physician Costs

4. CONCLUSION

The results of this study generally support a positive between the primary care physician cost profile dimensions and the patient satisfaction. The Primary-Care Physician (PCP) costs and medication costs are significantly contributing the patient satisfaction in all dimensions; whereas other costs (e.g., facility cost and non-PCP costs) are not directly linked to the patient satisfactions.

The findings of this study raise a number of questions. Foremost, the study concluded that primary care physicians with lower costs had lower patient satisfaction scores. Health plans that reward primary care physicians for low costs and high patient satisfaction (for example, Kowalczyk, 2002) seem to exacerbate potential conflicts inherent in the physician's dual agency role. The primary care physician cannot balance the interests of health plans (low costs) and patients (desire for more services and prescriptions). This fact affects the physician's agency relationship with health plans and patients. If the physician favors the patient's interests, the physician runs the risk of financial and utilization management consequences from the health plan (Sommers et al., 2001), up to the termination of the contract with the health plan (Dahl, 1999). If the physician complies with the health plan's objective, patient satisfaction suffers. Dissatisfied patients increase the risk of malpractice claims (Hickson et al., 2000), are less likely to comply with the physician's treatment recommendation (Vermeire et al., 2001), and may switch to a more accommodating physician (Keating et al., 2002; Federman et al., 2001; Zoller et al., 2001). These undesirable outcomes waste resources and have consequences for the patient's health. For example, previous studies found patient compliance with treatment plans critical to the successful management of chronic diseases such as diabetes (DiMatteo, 2004).

The findings of this study also seem to indicate a demand-driven system. Patients demand more services. There is a significant correlation between primary care physician costs and medication costs and patient satisfaction. Primary care physician costs are a measure of the services a primary care physician provides to the patient. Patients seem to prefer more and or higher cost services. The same holds true for medications. Patients seem to prefer more or higher cost prescriptions. Patients' preferences for more rather than less aligns their interests with the physicians' and pharmaceutical industry's economic interests (for example Reinhardt, 1999; Pirisi, 1999; Mintzes et al., 2004; Pham et al., 2004). In the U.S. health care system, insurance protects the patient from the financial consequences of these preferences at the time of consumption. The individual patient's consumption of health care services does not have immediate financial consequences for the patient. The patient dos not experience increases in health care premiums and higher deductibles at the time when the physician renders health care services. These dynamics raise several questions. For example, does the consumption of more health care services result in better health/outcomes? A number of studies indicate otherwise. What are the factors driving the patient's demand orientation? Previous studies identified a number of these factors: The U.S. health insurance system itself, direct-to-consumer pharmaceutical advertising; lack of patient education, inconclusive scientific evidence, and a lack of studies linking outcomes to resource consumption.

In a complex demand driven system, attempts to limit the supply through financial incentives and utilization management techniques are destined to result in conflict between stakeholders. For example, Pereira & Pearson (2001) found that patients were concerned about undisclosed financial incentives for physicians. Further, physicians perceived restrictions placed on them by managed care organizations as affecting the quality of care negatively (Pugno et al., 2001).

This study points to the challenge of changing the patient's framework of satisfaction with the health care system. Moving patients from a framework where more is better to a framework where satisfaction is defined differently will require health care system changes, patient education, and more research into the relationship between resource consumption and outcomes.

The results of this study confirm a significant correlation between primary care physician costs and medication costs and patient satisfaction. Consequently, health plan incentive plans rewarding physicians for low cost and high patient satisfaction ask the physician to do the impossible and are inconsistent with the physician's dual agency role. This study suggests a better approach: Work on changing the patient's satisfaction framework from a "more is better" framework to one where satisfaction is determined by outcomes. Health care system changes, patient education, and research into the relationship between resource consumption and outcomes will move the patient toward the new framework.

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PERFORMANCE MEASUREMENT OF INTERNATIONAL JOINT VENTURES IN THE SOUTHEAST ASIAN COUNTRY OF THAILAND

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ABSTRACT

International joint ventures (IJVs) literature to date indicates a lack of agreement among IJV researchers on something so fundamental as the appropriate method by which to measure IJV performance. Due to the limitations of each individual IJV performance criterion, this paper has adopted an integrated approach to the measurement of IJV performance. This includes objective measurement, subjective measurement, and composite measurement. This is a pioneering attempt to assess IJV performance in Thailand and, more generally, in the ASEAN4 context by using a variety of indicators. The result indicates that there is indeed a relationship between the objective and subjective measurement of IJV performance. Also, IJV performance in Thailand has been assessed as 'moderately high'. This study significantly contributes the new findings in an under-researched area.

Keywords: *Thailand; Performance Measurement; international joint ventures; IJV performance*

1. INTRODUCTION

Many researchers, such as Lassserre (1999), Sim and Ali (2000) argue that the international joint ventures (IJV) is a prevalent mode of entry of the multinational enterprises (MNEs) into developing countries especially in the Asia-Pacific region. However, previous researches show that a great number of studies have concentrated on the IJV formation in a specific countries in Asia like China, India, and the first tier newly-industrialising economies (NIEs): Taiwan, Singapore, Hong Kong, and South Korea (Lee and Beamish, 1995; Calantone and Zhao, 2000; Yan and Gray, 2001; Luo, 2002; Pothukuchi *et al.*, 2002). To date, relatively little attention has been paid to the high-performing economies of the Association of Southeast Asian Nations, (the ASEAN4 countries, namely Thailand, Malaysia, Indonesia and The Philippines) although IJV formation in this region has grown significantly, along with the region's economies, in the past three decades (UNCTAD, 2007, Suwannarat *et al*, 2010).

Venkatraman and Ramanujam (1986); Anderson (1990) assert that in the dynamic environments, any firms are difficult to be evaluated since profit is a long-term proposition and a large number of the IJVs are not intended to achieve general business objectives such as making a profit and so forth. Instead, they might be created to learn a certain technology, open a market, or block competitors (Geringer and Herbert, 1989; Harrigan, 1988). Hence, many researchers (Geringer and Herbert, 1989, 1991; Lee and Beamish, 1995, Julian, 2005) point out that it is not easy to assess how well the IJVs meet these objectives.

From this notion, it is therefore necessary to concentrate on the following critical issue of the IJV formation in the ASEAN4, especially in Thailand: the assessment of the IJV performance with a wider approach. In this regard, this article presents the outcome of the IJV study in relation to this important issue in order to provide new empirical insights as well as to fill a knowledge gap of the IJV study especially in this region. The article is organised in the following manners. The next section presents the literature review and hypotheses development. The research method is presented in the following section. The results and implication are set out in the next section. The final section contains the conclusions.

2. LITERATURE REVIEW AND HYPOTHESES

IJV Definition

Joint ventures are legally and economically separate organisational entities created by two or more parent organisations which collectively invest capital and other resources to pursue certain strategic objectives (Pfeffer and Nowak, 1976). A generally similar approach is proposed by Kogut (1988), who defines joint ventures as being when two or more firms pool a portion of their resources within a common legal organisation. Further, a joint venture is regarded as an international joint venture (IJV) if at least one partner has its headquarters outside the venture's country of operation, or if it has an important level of operation in more than one country (Geringer and Herbert, 1989). Shenkar and Zeira (1987) also define IJVs as "a separate legal organisational entity representing the partial holdings of two or more parent firms, in which the headquarters of at least one is located outside the country of operation of the joint venture. This entity is subject to the joint control of its parent firms; each of which is economically and legally independent of the other" (Shenkar and Zeira, 1987: 547).

IJV Performance Measurement

Many IJV researchers (Geringer and Hebert, 1991; Glaister and Buckley, 1998; Lasserre, 1999; Pangarkar and Lee, 2001; Pothukuchi *et al* 2002, Julian, 2005) argue that no consensus on the appropriate measure of IJV performance measurement has yet appeared. This inconsistency in the performance measurement stems from the measures themselves, or, more specially, from how poor the performance is defined (Yan and Gray, 1994). A number of researchers use a variety of objective measures to assess the IJV performance. For instance, Lee and Beamish (1995) use stability to measure the IJV performance and they define the IJV instability as "equity changed or major reorganisations that were unplanned from one or both partners' perspective" (Lee and Beamish, 1995: 640). Killing (1983) use the IJV survival as a measure of success. An IJV firm faces a "failure" if it is either disbanded through liquidation (e.g., one partners' taking over the venture or it being sold to a third party) or if it undergoes a major reorganisation (e.g., change of control or change of executives). Other researchers (Harrigan, 1988; Dymsza, 1988; Glaister and Buckley, 1998) use duration of the IJV firms as a measure of performance. Dymsza (1988) concludes that "successful IJVs are those that survive over a reasonable period of time, generally over eight years" (Dymsza, 1988; 403).

Still, other researchers (Luo and Chen, 1997; Calantone and Zhao, 2000) adopt the conventional performance measurement, the financial performance measurement to evaluate the success of the IJVs. While the traditional financial indicators can be an appropriate measure of the IJV performance once the venture is producing a product, it is not necessarily useful in the start-up stages. Anderson (1990) observes that IJV parent firms "tend to evaluate the venture much as they do one of their own divisions" and that "these parents typically evaluate performance using financial reports" (Anderson, 1990; 20). However, it is often not realistic to expect IJVs to be profitable or to bring substantial financial gains early in their operations. Hence, it may be misleading to use financial indicators to assess the performance of the IJVs without specifying their stage of maturation with respect to long term goals.

Anderson (1990) suggests that for relatively mature IJVs, "output" measures, such as profitability and cash flow may be appropriate. However, other measures of performance are necessary for immature IJVs, which may not create positive financial outcomes in their early years. During this particular period, it is often necessary to rely on subjective assessments, especially the satisfaction of the partners and venture management, to judge progress of the IJV operation (Anderson, 1990; Yan and Gray, 1994). A study of Dess and Robinson (1984) on consistency between of the subjective and objective IJV performance measurement along with a replication of their study by a number of researchers (Geinger and Herbert, 1991; Glaister and Buckley, 1998) have found that there is a positive correlation between objective measures and subjective measures. In an attempt to retest their results in the context of the IJV performance measurement in the ASEAN4 countries especially Thailand, the first hypothesis of this study is the following:

Hypothesis 1: There will be a significantly positive correlation between objective and subjective measures of the IJV performance.

The second discrepancy in IJV performance measurement is related to the source of data, or more generally, whose perspective is used for performance assessment. A number of studies measure IJV performance on the perception of satisfaction that comes from both sides of IJV parent firms. Schaan (1988); Beamish and Banks (1987) assert that the IJV success must be based on the satisfaction of both partners. If either partner is dissatisfied with the IJV performance, it is regarded as unsuccessful.

On the other hand, many researchers (Killing, 1983; Beamish, 1988) base their measure of performance primarily on the subjective evaluation of the IJV general managers. Killing (1983) assesses the IJV success from IJV general mangers' perspectives. From his view, the IJV managers tend to consider the IJVs as a profit centre and pay more attention to entrepreneurial fulfilments, whilst the executives of the parent companies tend to regarded the IJVs as an internalised cost centre, thereby, attributing more weight to immediate benefits drawn from the IJVs in enhancing a strategic position of their firms. Killing's view has been supported by Anderson (1990); she argues that joint ventures should be assessed primarily as "stand-alone" entities that are looking for the maximisation of their own preference.

Another motivation to elicit the IJV performance satisfaction from one partner, especially from IJV general managers, results from difficulties in obtaining data from all partners due to logistical and cost barriers (Boateng and Glaister, 2002). An important concern of this issue is whether or not the data collected from one partner are reliable, accurate and responsive to the IJV parents' satisfactory views. Geringer and Herbert (1991) point out that the IJV managers are likely to be informed of the parents' levels of satisfaction via an organisational information dissemination process (e.g. general meeting or co-decision making with parent companies). In addition, the IJV general managers are the people who implement management plans, whose targets and goals belong to the management board and parent companies, for the IJV to operate accordingly. Hence, the IJV managers are likely to be aware of the overall strategic goals on which assessment of performance should be based. Thus, this study adopts this notion by eliciting data from the IJV general managers.

The findings of previous researches (Dess and Robinson, 1984; Geringer and Hebert, 1991; Boateng and Glaister, 2002) have revealed that there is a strong, positive relationship between how one of the IJV parent companies view IJV performance and how the IJV managers of the IJV companies view the performance. This provides a support for taking only the IJV general managers' views toward to the IJV performance. This leads to the second hypothesis of this study.

Hypothesis 2: There will be a positive correlation between IJV managers' assessment of the IJV performance and IJV managers' perception of the IJV parent companies' assessment of the IJV performance.

There is the evidence to suggest that a country of origin of the IJV partners affects IJV behaviours (Lee and Beamish, 1995; Pan and Tse, 1996). However, a study of Sim and Ali (1998) of the IJV performance of IJVs with partners from both developing and developed countries in a developing country context shows that the IJVs with developed country partners do not differ from the IJVs with developing country partners in terms of their success levels. To focus on this issue, the following hypothesis has been set up.

Hypothesis 3: The performance of the IJVs in Thailand with parent companies from developed countries are different from those with the parent companies from developing countries.

3. RESEARCH METHODS

IJV Database and Survey Instrument

Compiling an IJV database from the financial and business press is problematic. Glaister and Buckley (1994) point out that it is likely that only major ventures which involve relatively large and well known firms will be reported in the press, with perhaps many small ventures going unreported. In addition, Hergert and Morris (1988) argue that in many published articles the source of information is likely to be press releases by the firms involved in the venture and these are likely to provide biased accounts of the characteristics of IJVs. Nor is it possible to estimate the extent of IJV activity that goes unreported (Glaister and Buckley, 1994). For these reasons, many have argued[1] that an official database obtained from government organisations is likely to be superior to one obtained from the financial and business press. Accordingly this study follows their approach and this study has used an official database provided for this study by the Thailand Board of Investment (BOI). Some previous studies have used BOI data sets (e.g. Julian, 2005) but to the researcher's knowledge none have used such an extensive data set which records IJV formation in Thailand from 1951 to 2003.

This study followed the convention established in the literature[2] where at least a 10% shareholding by parents was considered as the minimum equity criterion for defining an international joint venture in a developing country. All companies which had become non-operational were excluded from the database. All IJVs included in the sample have existed for at least three years, because there is considerable evidence to suggest[3] that it takes approximately three years for each partner to devise a comprehensive plan against which to assess the performance of the IJV. These actions yielded a database of 1,597 companies. A systematic sample of 310 firms was identified from the population companies, stratified by industrial sector.

A postal questionnaire in Thai and English was administered to the sample companies. The questionnaire was piloted with 25 of the sample companies and minor changes to some of the questions were made as a result of the feedback obtained. The response rate was 28.39%. This compares favourably with similar studies in the extant literature, where rates range from 10-40%[4].

Statistical Analysis

To examine the hypotheses, two different sets of statistical tests have been conducted. The correlation coefficients have been computed in order to test the first and the second hypothesis (H1), (H2). Secondly, the t-test and equivalent test have been conducted to test the significant difference of the mean scores of the variables in order to test the third hypothesis of the study (H3). A number of researchers (Chen and Glaister, 2005; Field, 2005) argue that if the sample size exceeds 30, it is reasonable to assume that the sample is from a normal distribution; parametric tests can be adopted to use, that is two sample t-test. However, this study also has conducted the equivalence of non-parametric tests, the Mann-Whitney U test for two category variable to confirm the outcomes of the parametric test.

Variables

The questions in the questionnaire used in this study were derived from the review of literature on IJV performance assessment especially from the insights provided by such previous research as Geringer and Hebert (1991); Sim and Ali (1998); Glaister and Buckley (1998); and Boateng and Glaister (2002). The subjective IJV performance assessment was measured using a five-point Likert scale, following the practice of such IJV researchers as Geringer and Hebert (1991); and Glaister and Buckley (1998), where 1 stands for "very dissatisfied", and 5 means "very satisfied".

Following the practice of such previous studies as Sim and Ali (1998); and Boateng and Glaister (2002), IJV performance was also measured using a composite index (an arithmetic average). Respondents assessed performance of five IJV activities on a five-point Likert scale, where 1 denoted "much worse than expected" and 5 denoted "much better than expected". The five activities were marketing; finance; strategy; technology transfer and R&D; and human resource management.

While the objective performance assessment of survival, stability, and duration follows the practice adopted by Geringer and Hebert (1991), and Glaister and Buckley (1998), survival has been measured using a dichotomous variable based on the survival or non-survival (termination) of the IJV from the time of its formation until the data collection point in 2006. For stability, it was measured with a dichotomous variable based on whether changes in the IJV's equity shareholding had occurred since its formation. Duration was measured by the number of years between the IJV's formation and either its termination or the collection of performance data, whichever came first. Also, respondents were asked whether their IJV had a dissolution plan or not, and this was measured with a dichotomous variable to provide more detailed information on the duration of IJVs.

4. THE RESULTS AND DISCUSSION

Objective and Subjective Measures of Performance Assessment

The findings reveal that there is a positive relationship between objective and subjective IJV performance assessment. This leads to the support of the first hypothesis (H1). The results show that the relationship between the subjective measure of satisfaction and the objective measure of survival is strongest compared with the correlation between other objective and subjective criteria. The outcomes in Table 1 indicate that the survival measure has a positive correlation with the subjective measure of the foreign parent companies' satisfaction measured by IJV managers, with a Spearman correlation coefficient of 0.31 at 0.01 significance levels. It also has a positive correlation with the subjective measure of the satisfaction of IJV managers, which gives a Spearman coefficient value of 0.24 at 0.05 significance levels.

These results suggest that the higher the IJV survival rate, the greater the IJV satisfaction. Since the questionnaire asks respondents, “Has the IJV been terminated?”, the prospective answer can be only yes or no. These answers have been coded as: 1 stands for ‘yes’ and 2 equals ‘no’. While the coding of the subjective measure of IJV satisfaction is based on a 5-point Likert scale, where the lowest number of 1 stands for ‘very dissatisfied’, and the highest number of 5 means ‘very satisfied’.

Table 1: Spearman Correlations Between Objective and Subjective IJV Performance Evaluation

	Objective Performance Evaluation		
Subjective Performance Evaluation	**Survival**	**Stability**	**Duration**
Satisfaction View			
Foreign Parent’s Satisfaction Measured by IJV Manager	**0.31	0.07	-0.02
Thai Parent’s Satisfaction Measured by IJV Manager	0.14	0.07	0.07
Satisfaction Measure of IJV Manager	*0.24	0.11	0.04
Marketing Achievement			
MKT Share Achievement	*0.22	*-0.22	0.10
Advertise/PR Achievement	0.05	0.01	-0.07
Distribution Achievement	0.09	0.03	0.00
Reputation Achievement	*0.25	0.09	-0.06
Customer Services Achievement	0.06	0.05	-0.15
Financial Achievement			
Sales Level Achievement	*0.19	0.11	0.09
Profitability Achievement	0.07	[illegible]	0.00
ROI Achievement	*0.23	0.10	0.00
Cost Control Achievement	0.06	0.05	0.09
Pay Back Period Achievement	0.04	0.07	0.08
Strategic Achievement			
IJV Autonomy Achievement	0.11	*0.23	0.01
Inter-Partner Trust Achievement	*0.18	0.21	0.08
Inter-Partner Cooperation Achievement	*0.15	*0.22	0.08
Strategic Objective Achievement	0.09	0.04	0.02
R&D, Technology Transfer Achievement			
Technology Transfer Achievement	0.00	0.13	-0.03
R&D Partner Involvement Achievement	0.02	0.12	-0.03
Product Design Achievement	* 0.25	0.04	-0.06
Manufacturing and Control Achievement	*0.17	-0.14	-0.06
Human Resource Management Achievement			
Compensation MGT Achievement	0.08	-0.03	-0.08
Employee Performance Achievement	*0.14	-0.01	-0.24*
Employees' Skill Improvement Achievement	*0.16	-0.06	-0.14
Overall Performance Achievement	*0.14	-0.07	-0.21

NB: ** p< 0.01, *p< 0.05

However, the outcomes show that there is no significant correlation between the subjective measure of IJV satisfaction and the objective measure of IJV stability and IJV duration.

These findings are consistent with those of previous studies which find a significant positive relationship between the objective measure and subjective measure of IJV performance assessment. Of the objective performance measures identified, only survival has been found to have a significant set of correlations with overall subjective performance assessment. In broad terms, this supports the findings of Geringer and Hebert (1991) and Glaister and Buckley (1998) who report that the survival-based measure shows the strongest correlations with subjective performance measures. This suggests that the IJVs perceived to be more satisfactory are more likely to remain in operation than those IJVs assessed as less satisfactory. In comparison, the objective performance measures of stability and duration cannot be found to have significant relationships with the subjective measure in this study and also in the study of Glaister and Buckley (1998). This contrasts considerably with the findings of Geringer and Hebert (1991) as they report a number of relatively strong and significant correlations between the objectively based measures of stability and duration and the subjective performance measures.

Geringer and Hebert (1991) examine the relationship between objective and subjective performance measures in the context of IJVs whose parent firms are from developed countries. In contrast, this study, like that of Glaister and Buckley (1998), investigates the relationship of these two measures of IJV performance assessment in the context of IJVs whose parent firms are from both developed and developing countries. This may explain the different outcome of the other study.

Further, Geringer and Hebert (1991) focus on the manufacturing sector only, while this study (like Glaister and Buckley, 1998) includes both the manufacturing and the tertiary sectors. These differences should be borne in mind when assessing the findings. Clearly, it is difficult to come to a settled view on the empirical relationship of these two approaches to performance assessment because very few studies have so far been undertaken on this issue, especially in the context of developing countries of the ASEAN4. Hence, this study has made a contribution to the field of IJV research with new findings on an under-researched geographical area.

The Perspective of IJV Performance Assessment

The outcome of the study shows that there are positive relationships between IJV managers' assessment of their IJV's performance and IJV managers' perception of the IJV parent companies' assessment of the IJV's performance. Table 2 illustrates Spearman correlation coefficient values between each view of IJV performance assessment. The results show strong, positive correlations between the IJV managers' own assessment of satisfaction with the IJV's performance, the IJV managers' assessment of satisfaction of the foreign parent companies, and the IJV managers' assessment of satisfaction of the Thai parent companies.

The evidence shows that the positive correlation between the IJV managers' own assessment of satisfaction with the IJV's performance and the IJV managers' assessment of satisfaction of the foreign parent companies is the strongest correlation (0.81 Spearman coefficient values) among the three pairs of the relationships. It is followed by the correlation between the IJV managers' own assessment of satisfaction with the IJV's performance and the IJV managers' assessment of satisfaction of the Thai parent companies with 0.75 Spearman correlation coefficient values at 0.01 significance levels. Further, the relationship between the IJV managers' assessment of satisfaction of the Thai parent companies and the IJV managers' assessment of satisfaction of the foreign parent company illustrates a moderate positive correlation with a Spearman correlation value of 0.69 at 0.01 significance levels.

Table 2: Spearman Correlation Matrix of the IJV Managers' Subjective Performance Evaluation

	Foreign Parent's Satisfaction Measured by IJV Manager	Thai Parent's Satisfaction Measured by the IJV Manager	Satisfaction of the IJV Manager
Foreign Parent's Satisfaction Measured by the IJV Manager	1		
Thai Parent's Satisfaction Measured by the IJV Manager	0.69**	1	
Satisfaction of the IJV Manager	0.81**	0.75**	1

NB: **p< 0.01

Boateng and Glaister (2002) argue that the study of this issue is very important and should be tested before other issues of IJV study if researchers collect data from the perception of IJV managers. This is because it is essential to examine whether or not IJV managers' assessments correlate with those of the IJV parents. Geringer and Hebert (1991) and Boateng and Glaister (2002) rationalise that these managers may have been drawn from one or both of the parent firms or by outsourcing, but work as employees of the IJV. They are likely to be informed of the parents' levels of satisfaction through formal disclosure such as the Annual General Meeting (AGM), and more informal disclosure in the course of the parents' involvement in the management of the IJVs. Moreover, IJV parent companies, through their representatives at board level, set up the overall objectives of the IJV to be carried out by the IJV managers (Geringer and Hebert, 1991).

The outcomes of this study show a significant correlation between the IJV managers' assessment of IJV performance and IJV managers' perception of the IJV parent companies' assessment of IJV performance. Statistically, there are positive and strong correlations between all three elements ($p<0.01$), which therefore support the findings of Geringer and Hebert (1991); Boateng and Glaister (2002), as well as support the second hypothesis (H2) of this study. Glaister and Buckley (1998) also find strong positive correlations between these three elements of their correlation examinations between the UK partners' satisfaction with IJV performance, the UK partners' perception of the foreign partners' satisfaction, and the UK partners' perception of the IJV general managers' satisfaction.

In addition, the findings of this study indicate that the relationship between the IJV managers' own assessment of satisfaction with IJV performance, and the IJV managers' assessment of satisfaction of the foreign parent companies is stronger than the correlations between the other relationships. This figure is fully consistent with the outcomes of the study of Boateng and Glaister (2002). In short, this study suggests that the IJV manager can provide a reliable source of data about each parent's performance assessment of satisfaction.

The IJV Performance Comparison with the Origin of the Foreign Parent Companies
This study finds that IJVs in Thailand with parent companies from developed countries are no different from those with parent companies from developing countries in terms of IJV performance; this leads to the rejection of the third hypothesis (H3). To study this issue, using the definition of 'developed' and 'developing' countries of the United Nations (United Nations, 2007) together with the classification of advanced economies and other emerging market and developing economies of the IMF (IMF, 2007), Table 3 shows the parametric test of *t*-test, and nonparametric test of the Mann-Whitney U of overall IJV performance made comparable between the IJVs with developed country parent companies and those with developing country parent companies.

The table indicates that the overall IJV satisfaction of IJVs with developed country partners has a higher mean score than that of IJVs with developing country partners, with a 1.26 mean difference value. However, this difference is not statistically significant in terms of the *t*-test, and Mann-Whitney U test. The result accordingly shows that, in terms of performance, IJV firms with developed country parent companies are no different from IJV firms with developing country parent companies.

Table 3: Comparison of Overall IJV Satisfaction Between IJVs with Developed Country Partners and IJVs with Developing Country Partners

	Partner country	Mean	SD*	Mean Difference	t-Value	Mann-Whitney U**
Overall IJV Satisfaction	Developed	11.06	2.08	1.26	1.30	151.50
	Developing	9.80	2.49			

NB: * = Standard Deviation
** = Nonparametric test

This is consistent with the findings of Sim and Ali (1998), which reveal that IJVs with parent companies from developed and developing countries rate IJV performance not to be significantly different. This study does, however, have a larger sample size than that of Sim and Ali.

Against that, this finding differs from the outcome of a study by Lee and Beamish (1995) which found Korean joint ventures are more satisfactory in LDCs (less developed countries) than are developed country joint ventures in LDCs. Lee and Beamish (1995) argue that Korean firms that first invested in LDCs especially Southeast Asian countries found the cultural environment, traditions and behaviour patterns to be similar to Korea, about which Korean firms possessed information and understanding. The Korean firms entering LDC markets also do not confront as large a foreign knowledge gap regarding the economic situation. They may not have the same level of hesitancy in entering such markets as has been observed elsewhere because they do not perceive as much risk as other foreign investors do. This is due in part to the fact that many Korean managers feel that socioeconomic conditions of Southeast Asian developing countries are similar to those that they had faced in Korea in earlier periods. Hence, these backgrounds may positively influence performance perception of Korean managers in LDCs.

Regarding the result of this study, it can be seen that IJVs with parent companies from developed countries are concentrated in higher technology sectors (e.g. metal products, machinery and transport equipment sector) catering for both the domestic and overseas markets, while IJVs with foreign parent firms from developing countries especially Asian Pacific firms are in traditional mature sectors (e.g. agriculture and agricultural products sector) which could take advantage of low labour costs in Thailand for the export markets. This factor could have equalised the performance rating of the two groups in this study. That is, IJVs with parent companies from developed and developing countries rate IJV performance not to be significantly different. This rationalisation is similar to the study of Sim and Ali (1998).

Also, this study is to assess IJV performance in the ASEAN4 context by taking Thailand as an example. The findings show that IJV performance in Thailand has been assessed to be moderately high. Table 4 presents the rank order of mean scores of the subjective measure of IJV satisfaction from the three perspectives: 1) the IJV managers' own assessment of satisfaction with IJV performance; 2) the IJV managers' assessment of satisfaction of the foreign parent companies, and 3) the IJV managers' assessment of satisfaction of the Thai parent companies. The median value of the five-point scale is 3, and all the subjective measures exceed this value. Generally, the data shows that the satisfaction of IJV managers and their perception of IJV parent companies' satisfaction with IJV performance are moderately high. However, the results show slight differences of the mean scores among the three views of satisfaction. The IJV managers' satisfaction has the highest mean scores among the three views; it demonstrates 3.66 mean scores with a standard deviation of 0.78. It is followed by the IJV managers' assessment of satisfaction of the foreign parent companies with a mere difference of a correlation coefficient of 3.65 and a standard deviation of 0.84. The least mean scores of 3.61 with a standard deviation of 0.75 relates to the IJV managers' assessment of satisfaction of the Thai parent company.

Table 4: Mean Score Comparison of IJV Subjective Performance Evaluation Measured by IJV Managers

Performance View	Mean	Standard Deviation
Satisfaction of the IJV Manager	3.66	0.78
Foreign Parent's Satisfaction Measured by the IJV Manager	3.65	0.84
Thai Parent's Satisfaction Measured by the IJV Manager	3.61	0.75

Table 5 indicates the results of IJV performance in terms of IJV survival, stability, and duration. The data show that only 7 IJVs (8%) have already been terminated. This represents a high survival rate. Two IJVs were terminated in 2003 and 2004, and another firm ended IJV cooperation in 2005. Another two IJVs did not give their year of termination. The most common reason for termination (57%) is being taken over by foreign parent companies, followed by being taken over by a third party (29%), and being bought by Thai parent companies (14%). The main reason for termination is a change of partners' strategy (57%), while the least common reason (14%) is fulfilment of the IJV's purposes.

The majority of IJVs (62 IJVs) state that the proportion of equity shareholding in the IJV has never changed since the ventures were first established, with an average equity holding of 48% (mean = 48.23%) for foreign parent companies and 52% (mean=51.52%) for Thai parent companies. Against that, 26 IJVs indicate that the proportion of equity shareholding has changed, with an average of 66% (mean=65.87%) held by foreign parent companies and 34% (mean=34.13%) held by Thai parent companies. These figures indicate a high stability rate for IJVs. The lower the change in the proportion of equity share, the higher the stability rate. In addition, the data indicate that 95 % of all IJVs have no dissolution plans, while only 4 plan to end their IJV cooperation at dates between 2010 and 2017. The average age of the IJVs is 13 years, which shows that they tend to last for a medium to long period of time.

In short, the findings of this study show that IJV performance in Thailand has been assessed by the respondents as 'moderate-high'. This corresponds with those of previous empirical studies, which show that IJVs in developing countries, especially in the Asia Pacific region, display high performance levels. Beamish and Delios (1997) also find that IJVs established in developing countries yield performance levels higher than those of IJVs formed in developed countries. In addition, Delios and Beamish (2004) find evidence that IJVs formed in Asia have moderately better performance than those formed in North America and Europe.

One of the factors which may explain this general tendency is the Asian, and in particular the

Japanese, focus on long-term, stable relationships between companies and their workers, and between business partners. Pornnavalai (1997) notes that Japanese investors prefer long-term collaboration with their partners rather than opportunistic alliances and they seem to interface with the Thai partners very well due to the similarity of culture. It is likely that this is of no less importance than the primarily performance factors and motivations of the IJV formation. A study of Hofstede (1980, 1985) also points out that national culture of Thailand is closer to that of Japan and the NIEs than to those of Western countries. This may be an important factor contributing to the "moderate-high" rating of IJV performance in this study, since the majority of foreign partners in this study came from Japan and the NIEs. More specific research into IJV performance assessment in other ASEAN4 countries and in developing countries, would be useful to complement the outcomes of this study, since IJV performance in each of them may be differently influenced by social and cultural factors.

Table 5: Objective Assessment: Survival, Stability, and Duration

IJV Termination/ Survival	Percent
No Termination	92.05
Termination	7.95
Year of Termination	Percent
2003	29.57
2004	29.57
2005	14.29
Data Missing	29.57
Type of Termination	Percent
Bought by Thai Parent Company	14.29
Bought by Foreign Parent Company	57.14
Bought by Third Party	29.58
Reason for Termination	Percent
IJV Had Fulfilled Its Purpose	14.29
IJV Poor Performance	29.57
Change of Partners' Strategy Towards IJVs	57.14
Shared Equity Change (Stability)	Percent
No Shared Equity Change	70.45
Shared Equity Change	29.54
Duration: average age of IJVs = 13.31 **IJV Dissolution Plan**	Percent
No Dissolution Plan	95.24
Has Dissolution Plan	4.76
Year: 2010	1.19
Year: 2011	1.19
Year: 2013	1.19
Year: 2017	1.19

NB: SD = Standard Deviation

5. CONCLUSIONS

This article is an original attempt to examine IJV performance in the context of Thailand as a Southeast Asian country. The geographical and economic context of the study is unique in the literature on IJV performance, hence it is contributing new findings in an under-researched area. To date, the literature indicates that there is no agreement among IJV researchers on the appropriate method for measuring IJV performance. Due to the limitations of each IJV performance measurement approach, this study has adopted an integrated approach to the measurement of IJV performance in Thailand. This includes objective measurement (assessment of stability, duration, and survival), subjective measurement (a general assessment of the degree of perceived satisfactoriness), and composite measurement (multi-perceptual assessment with numerous aspects). This is a pioneering attempt to evaluate IJV performance in the ASEAN4 context by using a variety of indicators. The outcomes of this study indicate that there is a relationship between the objective and subjective measurement of IJV performance. The findings reveal that there is a positive relationship between these two measures. This is consistent with the findings from previous studies. Of the objective performance measurements identified, survival has been found to have the strongest and most significant set of correlations with overall subjective performance measurement.

In addition, the findings also suggest that there is a significant positive correlation between IJV managers' assessment of IJV performance and the IJV managers' perception of the IJV parent companies' assessment of IJVs' performance. This corresponds with the findings of previous studies (for example, Geringer and Hebert, 1991; Boateng and Glaister, 2002) since these researchers argue that this issue is very important and should be tested before other issues of IJV study where researchers are collecting data from the perception of the IJV managers. This is because it is essential to examine whether or not IJV managers' assessments correlate with those of the IJV parents. The outcome of this study also indicates that IJV performance in Thailand has been assessed as 'moderate-high'. Future research of IJV performance assessment in other developing countries, especially in other ASEAN4 countries, might be useful to confirm the outcomes of this study. Since IJV performance in each developing country might be differently influenced by a number of related factors (e.g., social and cultural factors), these might affect IJV performance and result in different outcomes compared with this study.

Furthermore, with considerable persistence, it proved possible to obtain a good response rate from a target sample of this study. A much larger sample size might, however, have generated different results when using such multivariate data analysis techniques as factor analysis and regression analysis. Ideally, future research would be conducted on a larger scale by a research team. Last but not least, the survey conducted in the course of this study elicited primary data from a single group of respondents, IJV general managers, on the assumption that they were knowledgeable about all aspects of IJVs on which the study was focused. Future research might provide more comprehensive results if it proved possible to obtain data from all management perspectives: from IJV general managers, local parent companies, and foreign parent companies.

NOTES

1. See Ouchi (1979) and Kumar and Seth (1988) for instance.
2. Such as Blodgett's (1991) study examining the relationship between the IJV parent firms' contributions and their equity participation.
3. See studies such as Killing (1983) and Geringer and Hebert (1989).
4. For instance Chen and Glaister (2005) report a 10% response rate in respect of a study of Chinese and Taiwanese joint ventures.

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INFORMATION ORIENTATION, COMPETITIVE ADVANTAGE, AND FIRM PERFORMANCE: A RESOURCE-BASED VIEW

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ABSTRACT

To predominate in competitiveness, firms believe that quality information helps them gain competitive advantages and also accomplish their business goals. Therefore, they look around the information processing system implemented to attain their prospects. Based on the resource-based view (RBV) of the firm, firms with the specific resources can be creating their competitive advantage and sustainable performance. This research determines information system (IS) which is applied into organization processes as the specific resources, both valuable assets and embedded capabilities that are the source of expectable outcomes. Beyond information technology resources, this research extensively establishes information orientation construct as an antecedent of competitive advantage and firm performance. Hence, the main research purpose is to empirically investigate the hypothesized relationship between information orientation and competitive advantage. The competitive advantage-firm performance relationship is also examined. In addition, technology growth and industry pressure are addressed as the moderators. Data was collected using mail questionnaires distributed to 500 e-commerce companies. Empirically, 94 completed questionnaires are used in this analysis. As the results, this research finds that information orientation positively affects competitive advantage resulting in the improvement of firm performance, according to the theoretical contributions of RBV. Moreover, the results also reveal that technology growth has a moderating effect on the relationship between information orientation and competitive advantage.

Keywords: *Information Orientation, Competitive Advantage, Resource-Based View, Technology Growth, Industry Pressure, Firm Performance*

1. INTRODUCTION

To sustain an organizational performance, firms need to productively accomplish their strategic planning by utilizing both external and internal information and differently improve their competitive advantage beyond competitors (Porter, 1980). However, firms need the beneficial information provided by internal information systems (IS) which promote the success of strategic planning, decision making effectiveness, organizational learning, and monitoring, respectively, resulting in the achievements of business goals and sustainable performance (Duh et al., 2006; Borges et al., 2009; Stein and Smith, 2009; Konthong and Sompong, 2011). Accordingly, many firms have made large investments in information technology (IT) to apply their business procedures based on computerized approach in ensuring the quality information providing (Kydd and Jones, 1989; Gunasekaran and Nath, 1997; Au and Choi, 1999; Reddy et., al 2005; Oronsky and Chathoth, 2007; Kerimoglu et al., 2008). For instance, implementing enterprise resource planning system in the transaction processing system among various departments within firms and applying database management system to effectively provide and manipulate the quality information which contains the characteristics of accuracy, completeness, timeliness and relevance (Mauldin and Richtermeyer, 2004; Chand, 2005; Morton and Hu, 2008).

As a marketing perspective, IS is implemented to support not only financial performance, but also comprehensively creates timely customer responsibilities driving the competitive advantage and customer performance (Ray et al., 2003; Emsey, 2005). Based on previous studies, prior evidence indicated that investing in e-commerce and web-based processing positively related to marketing orientation effectiveness, competitive advantage, and firm performance (Ferguson et al., 2005; Borges et al., 2009). Besides, advanced IS, such as data mining technology, also effectively analyzes customer needs and precisely predicts consumption behaviors strengthening the effective customer responses and satisfactions (Anderson et al., 2007).

As mentioned above, IS has a significant role in quality information providing. Therefore, information orientation is the important strategy that heightens business success. According to RBV, firms with the specific resources can be creating their competitive advantage and sustainable performance.

This study determines information orientation as a determinant of IT resources and also examines its effect on competitive advantage and firm performance. IT resource is defined as the available data, technology, people and processes within a firm to be utilized by the manager to accomplish business processes and tasks. IT resources can either be IT asset and IT capability (Piccoli and Ives, 2005). Clearly, IT asset is anything that can be used by firm in its processes for creating, producing, and offering its products such as IS infrastructure and information repository. IT capability is something that is learned or developed over time and used by the firm to create, produce, or offer its products using IT assets, such as technical skills and IT management skills. Particularly, information orientation is dimensionally categorized into five components consisting of IT operation concentration, inter-organization communication, information quality vision, IT innovation learning, and organization support for IT resources.

Therefore, the main purpose of this study is to investigate the relationship between information orientation and competitive advantage. The relationship between competitive advantage and firm performance is also examined. In addition, industry pressure is assigned as the moderator of the relationship between information orientation and competitive advantage and the relationship between competitive advantage and firm performance. Moreover, this research determines that technology growth has a moderating effect on the relationship between information orientation and competitive advantage.

2. THEORETICAL FOUNDATION

2.1 Resource-Based View of the Firm

The resource-based view (RBV) maintains that competitive advantage and sustainable performance are effectively derived from the information and other resources of the firm (Barney, 1991). RBV is useful in determining whether a firm’s strategy has created value. In this view, a unique resource enables firm to attain competitive advantage and thus, sustain the advantage over the long term. The considered resource contains four significant characteristics of being rare, valuable, non-substitutable, and inimitable. A resource is decided valuable when it enables the firm to obtain more effective of efficiency. It is rare when other firms do not possess it. Firm utilizes both valuable and rare resources to establish a superior competitive advantage. To sustain the competitive advantage over the long term, resource must be containing the characteristics of being non-substitutable and inimitable. Simply, it must be difficult to transfer or relatively immobile (Piccoli and Ives, 2005).

Based on RBV, IT resources, both IT asset and IT capability, are considered the drivers of competitive advantage and sustain firm performance. IT resources, such as developed IS and IT skills, are valuable when they effectively enhance business information processing (Bradford and Florin, 2003) and provide the advantageous information enabling firm to achieve business planning, decision making, and business goals (Jennex et al., 2004; Rivard et al., 2006; Kobelsky et al., 2008; Masquefa, 2008; Gorla, 2010). Also, the implemented IS is systematically generated around the best practices within firm and embedded in organization processes and business routines. Therefore, it is difficult to imitate and transfer. When firms perceive that provided quality information promotes them to gain the superior competitive advantage, therefore, they will concentrate on information system development, IT resource and communication investment, and IT innovation learning (Konthong and Ussahawanitchakit, 2010).

3. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Based on previous studies and related theories, the conceptual framework is developed as illustrated in Figure 1. This research hypothesizes that information orientation containing IT operation concentration, inter-organization communication, information quality vision, IT innovation learning, and organization support for IT resources positively impacts competitive advantage. Also, competitive advantage is posited as a determinant of firm performance. Additionally, industry pressure and technology growth are determined as the moderators of the relationship between information orientation and competitive advantage, and the relationship between competitive advantage and firm performance.

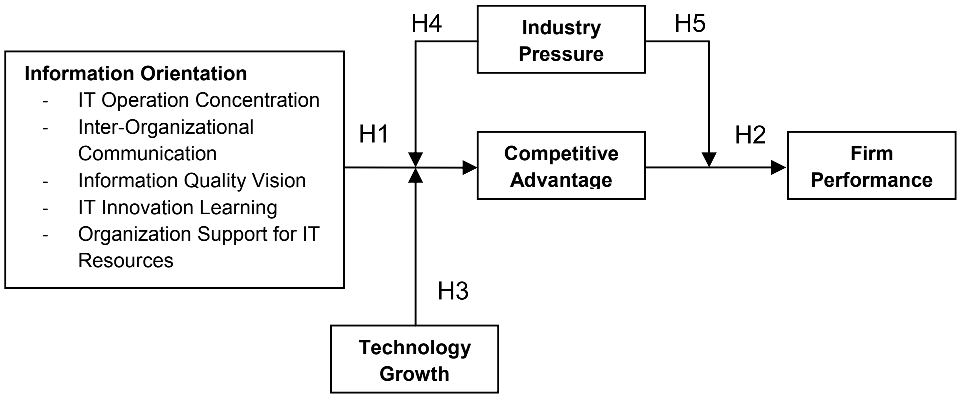

Figure 1: Conceptual Model of Information Orientation, Competitive Advantage, and Firm Performance: A Resource-Based View

3.1 Information Orientation

In this research, information orientation is defined as a concentration on IS development and information resource investment to establish the productive IS providing the beneficial information to support the accomplishment of business goals. Also, it includes the supporting for IT innovation learning and IT skill training that enable IS users' capabilities improvement. In addition, this research categorizes this construct into five dimensions as follows. Firstly, *IT operation concentration* is defined as the emphasis on IT adoption into computerized approach that automatically gathers, transforms, and reports advantageous information. Moreover, this dimension includes the emphasis on database processing usefulness. Carlson (1988) argued that utilization of the advanced information management approach is better suited to promote the decision making performance. Consistently, prior research revealed that information and communication technologies operation positively related to management efforts towards modernization and reorganization (Spanos et al., 2002). Likewise, Chathoth (2007) suggested that implementing information technology in business operations helps firms reduce operations-related transaction costs and increase capacity for search, storage, and retrieval of information (Pentland, 1995; Ham et al., 2005). Also, information technology operations positively related to service management success resulting in the customer satisfaction (Ravichandran and Lertwongsatien, 2005; Chathoth, 2007).

Secondly, *inter-organizational communication* refers to the information sharing and inter-communications with external entities such as customers and suppliers via the determined network and communication technologies. Previous research indicated that the integration of communication systems and information sharing with related customers and suppliers enhanced the capabilities of supply chain management contributing to firm performance improvement (Dehning et al., 2007; Zhou and Benton Jr., 2007; Barratt and Barratt, 2011; Cheng, 2011). Klein (2007) argued that supply chain management relationships between service providers and clients are effectively derived from e-business customization and real time information access. In addition, Ranganathan et al. (2011) indicated that the usage of web technologies in supply chain management activities productively enhanced firm performance. Next, *information quality vision* is defined as the organization's inspiring, optimizing, and confidence to state future direction relating to the perception that quality information enables firms to achieve their business objectives. Previous evidence revealed that information quality vision positively affected information system competencies resulting in firm capabilities and performance improvement (Zhang and Lado, 2001; Ismail and King, 2005; Konthong and Ussahawanitchakit, 2010).

Further, *IT innovation learning* is defined as the learning of the modern IT about new knowledge, methods, and technologies that allow for the different IT capabilities. These different IT capabilities create opportunities and digital options for firms to achieve strategic differentiation and thereby gaining competitive advantage. Calantone et al. (2002) suggested that learning orientation is the antecedents of firm innovativeness which in turn affects firm performance. Technological learning plays a significant role in competitive position because it increasingly sustains core competencies (Hitt et al., 2000; Real et al., 2006). Also, creativity emphasis through substantial investment in research and development and technological innovation positively affects long term corporate growth (Yang, 2012).

Finally, *organization support for IT resources* is the concentration on investment and procurement in computer hardware, software, network systems, IT staffs, database management system, and security systems (Lane, 1997; Wu, 2006; Michael, 2007; Trainor et al., 2011). King et al. (1989) found that information resources play a crucial role in the increasing of sustainable competitive advantage. Likewise, Vargas et al. (2003) found that human, management, and technology adaptation resources are associated with the presence of sustainable advantage that influences the competitive position achieved by organizations. Also, Prattipati and Mensah (1997) suggested that high productivity companies invest more on client-server applications to support their business achievements. Based on previous literatures, the related hypotheses are postulated as follows.

Hypothesis 1: Information orientation has a positive effect on competitive advantage: a) IT operation concentration, b) Inter-organizational communication, c) Information quality vision, d) IT innovation learning, and e) organization support for IT resources.

3.2 Competitive Advantage

Competitive advantage is described as positional superiority based on organizational strategies which are the combination of differentiation and/or cost leadership (Day, 1984). Competitive advantage is also regarded as the ability to gain returns on investment continually above the industry average (Porter, 1985). To gain the sustainable competitive advantage, firm should persistently obtain the superiority over competitors and diminish competitive abilities of its rivals. In accordance with RBV, competitive advantage can be achievable based on firm specific resources. Firm utilizes both valuable and rare characteristics of resources to acquire the superior advantage. Further, non-substitutable and inimitable resources lead competitive advantage to the sustainability.

Prior research indicated that IS implementation engendered the superior competitive advantage through business benefit creation such as lower costs, increased revenues, and product differentiation (Salmela, 1997; Kearns and Lederer, 2000; Griffiths and Finlay, 2004; Doherty and Terry, 2009; Lim et al., 2011). Also, IS adoption diminished the pressure of competitive forces such as bargaining power of suppliers, bargaining power of customers, and new entrants (Loebbecke and Powell, 1998; Klein, 2007; Barratt and Barratt, 2011; Cheng, 2011; Teo and Choo, 2001). In addition, IS implementation is based on the best practices and embedded routines, hence, the obtained advantage is difficult to imitate and transfer. As mentioned above, the related hypothesis is postulated.

Hypothesis 2: Competitive advantage has a positive effect on firm performance.

3.3 Technology Growth

Technology growth refers to the speed of technology revolution related to technology innovations that impact on information processing and competitive advantage improvement (Glazer and Weiss, 1993). Technology growth sustains organization performance when determined to implement for integration and coordination among various activities. In the context of technology intensity, firms need to adapt their information processing system continuously to cope with the profitability of competitors. IT innovativeness enables firm to absorb superior business benefits (Auh and Mengue, 2005). The congruence of existing IT infrastructure and modern IT affects the productivity of IS (Bradford and Florin, 2003). Thus, the following hypothesis is posited.

Hypothesis 3: Technology growth has a moderating effect on the relationship between information orientation and competitive advantage.

3.4 Industry Pressure

Industry pressure is defined as the forces of direct and indirect competitors. Direct competitors include existing firms within same industry and new entrants, while indirect competitors also combine the associated partners such as bargaining power of suppliers and customers. For the moderating effects of industry pressure, prior evidences indicated that competition intensity motivated firms to reduce the pressures of competitions and enhance their capabilities using the existing resources (Lumpkin and Dress, 2001). Thus the following hypotheses are posited.

Hypothesis 4: Industry pressure has a moderating effect on the relationship between information orientation and competitive advantage.

Hypothesis 5: Industry pressure has a moderating effect on the relationship between competitive advantage and firm performance.

4. RESEARCH DESIGN

4.1 Data Collection

This research uses mail-questionnaire as a data collection instrument distributed to 500 e-commerce companies registered in the database of the Department of Business Development in Thailand. Each questionnaire contains five parts including respondent personal data questions, firm demographic questions, questions required for the perceptions of information orientation, questions required for the perceptions of competitive advantage and firm performance, and questions required for the perceptions of industry pressure and technology growth.

According to data collection procedure, 72 mails were returned because they are undeliverable. However, 94 complete questionnaires are usable making the response rate of 21.96%. As the suggestion of Aaker et al. (2001), the acceptable criteria should be greater than 20% that is appropriately satisfied. In addition, the non-response bias between early and late respondents is critically concerned. This study equally separates the returned questionnaires into two groups and statistically examines using t-test comparison. Hence, the result indicates that there is no significant different between both groups of respondents.

4.2 Validity and Reliability

To be acceptable for the results, this research concerns the validity and reliability of the data collection instrument. Confirmatory factor analysis is employed to test the validity of data in the questionnaire. As suggested by Nunnally and Berstein (1994), the acceptable cut-off score of factor loading is 0.40. As a result, this research finds that all factor loadings of each construct are greater than 0.40 ranging from 0.487 to 0.939 and are statistical significant, as presented in Table 1. Therefore, the measurements of all constructs in conceptual model are satisfied.

To assure the reliability, Cronbach's alpha coefficient is designated to assess the internal consistency and the stability of the developed instrument. As suggested by Nunnally and Berstein (1994), the coefficient should be higher than 0.60. Evidently, the Cronbach's alpha coefficients of each construct are greater than the accepted criteria indicating that all constructs are acceptable. Simply, Table 1 provides the Cronbach's alpha coefficients ranging from 0.601 to 0.916.

TABLE 1
RESULTS OF VALIDITY AND RELIABILITY TEST

VARIABLES	Factor Loadings	Cronbach's Alpha Coefficients
IT Operation Concentration (ITC)	0.742-0.895	0.888
Inter-Organizational Communication (IOC)	0.797-0.892	0.810
Information Quality Vision (IQV)	0.760-0.898	0.861
IT Innovation Learning (INL)	0.679-0.832	0.601
Organization Support for IT Resources (OSR)	0.798-0.939	0.883
Competitive Advantage (COM)	0.714-0.881	0.897
Firm Performance (FPM)	0.571-0.870	0.889
Industry Pressure (IDP)	0.487-0.852	0.747
Technology Growth (TNG)	0.883-0.913	0.916

4.3 Statistical Techniques

To test the postulated relationships, this study employs the ordinary least squared regression to estimate the parameters in hypothesis testing. This statistical analysis is appropriate for examining the relationship between independent and dependent variables which are categorical and interval data (Hair et al., 2006). Hence, all hypotheses in this research are developed into six statistical equations depicted as follows:

$$\text{Equation 1: } COM = \alpha_1 + \beta_1 IFO + \beta_2 AGE + \beta_3 SIZ + \varepsilon_1$$
$$\text{Equation 2: } COM = \alpha_2 + \beta_4 ITC + \beta_5 IOC + \beta_6 IQV + \beta_7 INL + \beta_8 OSR + \beta_9 AGE + \beta_{10} SIZ + \varepsilon_2$$
$$\text{Equation 3: } COM = \alpha_3 + \beta_{11} IFO + \beta_{12} IDP + \beta_{13} IFO*IDP + \beta_{14} AGE + \beta_{15} SIZ + \varepsilon_3$$
$$\text{Equation 4: } COM = \alpha_4 + \beta_{16} IFO + \beta_{17} TNG + \beta_{18} IFO*TNG + \beta_{19} AGE + \beta_{20} SIZ + \varepsilon_4$$
$$\text{Equation 5: } FPM = \alpha_5 + \beta_{21} COM + \beta_{22} AGE + \beta_{23} SIZ + \varepsilon_5$$
$$\text{Equation 6: } FPM = \alpha_6 + \beta_{24} COM + \beta_{25} IDP + \beta_{26} COM*IDP + \beta_{27} AGE + \beta_{28} SIZ + \varepsilon_6$$

5. RESULTS AND DISCUSSION

TABLE 2
DESCRIPTIVE STATISTICS AND CORRELATION MATRIX

Variables	ITC	IOC	IQV	INL	OSR	COM	FPM	IDP	TNG	AGE	SIZ
Mean	4.404	3.915	4.404	3.982	4.045	3.722	3.691	4.030	4.066	0.521	0.428
S.D.	0.564	0.705	0.530	0.499	0.597	0.652	0.566	0.578	0.659	0.501	0.411
IOC	.344***										
IQV	.534***	.369***									
INL	.533***	.420***	.508***								
OSR	.585***	.354***	.574***	.492***							
COM	.470***	.470***	.294***	.484***	.480***						
FPM	.375***	.433***	.301***	.457***	.389***	.678***					
IDP	.226**	.344***	.428***	.180	.408***	.347***	.393***				
TNG	.304***	.323***	.453***	.261**	.471***	.364***	.498***	.790***			
AGE	-.100	-.231**	.157	-.059	-.062	-.098	-.003	.082	.055		
SIZ	.016	-.247**	.089	.195	.105	-.047	.037	.001	.022	.408***	

** $p < 0.05$, *** $p < 0.01$

5.1 Correlation Analysis

For the examination of multicollinearity problems, this study employs Pearson Correlation to evaluate the correlation coefficients among independent variables. The results from Table 2 show that the coefficients among independent variables are smaller than 0.80. As suggested by Hair et al. (2006), there is no multicollinearity problem in this study. Specifically, the coefficients among five dimensions of information orientation construct are ranging from 0.344 to 0.585. In addition, this study also employs the variance inflation factors (VIFs) to examine the multicollinearity concerns. Thus, the VIFs for all variables are smaller than 10 which indicate that the independent variables are not correlated with each other (Neter et al., 1985).

5.2 The Effects of Information Orientation on Competitive Advantage

Table 3 provides the results of OLS regression analysis. The results indicate that overall information orientation positively impacts competitive advantage ($\beta_1 = 0.574$, $p < 0.01$). ***Hence, Hypothesis 1 is supported.*** Particularly, the results also show that IT operation concentration has a positive influence on competitive advantage ($\beta_4 = 0.200$, $p < 0.10$). Consistently, prior evidence indicated that firms with implemented computer-based information processing system can obtain superior competitive advantage (Carlson, 1988; Pentland, 1995; Ham et al., 2005; Ravichandran and Lertwongsatien, 2005; Chathoth, 2007). ***Thus, Hypothesis 1a is supported.*** Inter-organizational communication has a positive effect on competitive advantage ($\beta_5 = 0.302$, $p < 0.01$). In accordance with prior studies, the investment in information sharing and communications with business alliances productively creates competitive advantage (Klein, 2007; Dehning et al., 2007; Zhou and Benton Jr., 2007; Barratt and Barratt, 2011; Cheng, 2011). ***Therefore, Hypothesis 1b is supported.***

Additionally, the results also reveal that IT innovation learning positively affects competitive advantage (β_7 = 0.210, p < 0.10). According to the previous evidence, research and development in IT innovation, including modern IT examination, allow firms to predominate above their competitors (Hitt et al., 2000; Real et al., 2006; Yang, 2012). ***Therefore, Hypothesis 1d is supported.*** Finally, the results of this analysis also indicate that organization support of IT resources positively affects competitive advantage (β_8 = 0.251, p < 0.05). In consistence with RBV, competitive advantage and sustainable performance are derived from the information and other resources of the firm (Barney, 1991). Prior evidence indicated that IT resources such as computer hardware, software, network systems, IT staffs, database management system, and security systems positively affect competitive advantage (King et al., 1989; Lane, 1997; Wu, 2006; Michael, 2007; Trainor et al., 2011). ***Hence, Hypothesis 1e is supported.***

TABLE 3
RESULTS OF OLS REGRESSION ANALYSIS [a]

INDEPENDENT VARIABLES	DEPENDENT VARIABLES Competitive Advantage 1	2	3	4
Information Orientation (IFO)	**.574***** (.087)		**.492***** (.098)	**.501***** (.098)
IT Operation Concentration (ITC)		**.200*** (.113)		
Inter-Organizational Communication (IOC)		**.302***** (.102)		
Information Quality Vision (IQV)		-.177 (.113)		
IT Innovation Learning (INL)		**.210*** (.111)		
Organization Support for IT Resources (OSR)		**.251**** (.117)		
Industry Pressure (IDP)			**.194*** (.110)	
Technology Growth (TNG)				**.172*** (.101)
IFO*IDP			.091 (.091)	
IFO*TNG				**.134*** (.080)
Firm Age (AGE)	-.066 (.193)	.162 (.198)	-.094 (.194)	-.066 (.192)
Firm size (SIZ)	-.134 (.190)	-.148 (.200)	-.146 (.193)	-.179 (.191)
Adjusted R^2	0.313	0.358	0.321	0.331

* p < 0.10, ** p < 0.05, *** p < 0.01
[a] Beta coefficient with standard errors in parenthesis

5.3 The Effect of Competitive Advantage on Firm Performance

As the results shown in Table 4, competitive advantage significantly and positively influences firm performance (β_{21} = 0.685, p < 0.01). In accordance with previous studies, implemented IS supports strategic goals such as cost reduction and the differentiation. Therefore, these competitive advantages enable firms to persistently sustain their performance (Loebbecke and Powell, 1998; Teo and Choo, 2001; Klein, 2007; Barratt and Barratt, 2011; Cheng, 2011). ***Respectively, Hypothesis 2 is strongly supported.***

5.4 The Moderating Effects of Technology Growth

The results from Table 3 also indicate that technology growth moderates the relationship between overall information orientation and competitive advantage (β_{18} = 0.134, p < 0.10). With regard to the previous studies, firms need to adapt their information processing system continuously to cope with the profitability of competitors, in accordance with the technology volatility (Bradford and Florin, 2003; Auh and Mengue, 2005). ***Therefore, Hypothesis 3 is supported.***

5.5 The Moderating Effects of Industry pressure

Surprisingly, the results also indicate that industry pressure does not moderate the relationship between information orientation and competitive advantage and the relationship between competitive advantage and firm performance. Consistently, prior research revealed that the interaction between competitive pressure and IS adoption does not influence firm performance. Firms with excellent IS and capabilities may not be affected by competitive forces (Konthong and Ussawanitchakit, 2009). ***Therefore, Hypotheses 4 and 5 are not supported.***

TABLE 4
RESULTS OF OLS REGRESSION ANALYSIS [a]

INDEPENDENT VARIABLES	DEPENDENT VARIABLE	
	Firm Performance	
	5	6
Competitive Advantage (COM)	**.685***** (.077)	**.621***** (.082)
Industry Pressure (IDP)		**.176**** (.083)
COM*IDP		.002 (.088)
Firm Age (AGE)	.088 (.172)	.041 (.173)
Firm size (SIZ)	.104 (.170)	.116 (.175)
Adjusted R^2	0.448	0.464

* p < 0.10, ** p < 0.05, *** p < 0.01
[a] Beta coefficient with standard errors in parenthesis

6. CONTRIBUTIONS AND FUTURE RESEARCH DIRECTIONS

6.1 Theoretical Contribution

For the theoretical contribution, this study establishes the conceptual model, and the related hypotheses are also postulated, based on RBV, to apparently increase the understanding the effects of information orientation. Information orientation is determined as the source of IT investment, IS development, and IT resources. IT resources, both assets and capabilities, are significant factors affecting competitive superiority and firm performance. In accordance with the contributions of RBV, the results of hypothesis testing show that information orientation positively impacts competitive advantage and competitive advantage positively impacts firm performance. This study also develops the construct of information orientation consisting of IT operation concentration, inter-organization communication, information quality vision, IT innovation learning, and organization support for IT resources. However, the validity and reliability of each dimension are concerned. The results indicate that these constructs are acceptable. To generalize the construct of information orientation, future research should use different samples or other contexts.

As the contingency perspective, the competitive benefits of the congruence between information orientation and technology growth are discovered. Future research should concern the environmental variables that moderate the relationship between information orientation and competitive advantage, such as environment instability. However, this research does not test the mediating effect of competitive advantage. Therefore, future research should investigate its mediating effect on the relationship between information orientation and firm performance.

6.2 Managerial Contribution

The results of this study reveal that computer-based operations, inter-organization communication, innovation learning, and supporting for IT resource positively impact competitive advantage resulting in the enhancement of firm performance. Therefore, firms should pay attention to IS development and implementation to provide the quality information that supporting for superior competitive advantage. To cope with competitive intensity, IT resources including hardware, software, personnel, information, and communication are the essential factors enabling firms to accomplish the strategic planning. In addition, the information system linkage with business partners also increases data interchange performance that helps firms easily and timely transact. Furthermore, IT skill training and innovation learning of IS personnel and IS users are significant for the productive information processing and IS development. Respectively, information orientation is the significant strategy that helps firm accomplishes the business purposes.

7. CONCLUSION

This study constructs the conceptual framework according to the assertion of RBV and also determines information orientation as the antecedent of IT resources that lead firms to completely perform their business objectives. As the conceptual framework, the relationship between information orientation and competitive advantage, and that between competitive advantage and firm performance are hypothesized. Moreover, technology growth and industry pressure are addressed as moderators. This investigation focuses on e-commerce companies in Thailand which concentrates on IS development and quality of information supporting for their competitive advantage. The results indicate that overall information orientation positively impacts competitive advantage while technology growth is presented as the significant moderator. In particular, IT operation concentration, inter-organization communication, IT innovation learning, and organization support for IT resources positively affect competitive advantage. Also, the results evidently indicate that competitive advantage strengthens firm performance. With respect to the results, theoretical and managerial contributions are highlighted.

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ENHANCING EMPLOYEE RECEPTIVITY TO CHANGE: A HUMAN RESOURCE DEVELOPMENT APPROACH

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ABSTRACT

Change is an ongoing challenge to organizations. Numerous models and methodologies have been proposed for managing the change process. However, the authors contend that change management could be effected more easily if employees were more receptive to change. Therefore, the authors propose a number of human resource development programs and practices that organizations could undertake to prepare employees for the recurring changes that organizations will undoubtedly face in the future.

Keywords: *Organizational Change, Receptivity to Change, Human Resource Development, Self-efficacy*

1. INTRODUCTION

Change is a common thread that runs through all business organizations today. Organizations must continually respond to the demands for change to sustain their existence in a dynamic, global environment. Over the past decade, several major factors have resulted in the need for change, prominent among which was the economic turmoil caused by the recession of 2008. The recession reduced consumer demand, decreased loan availability, resulted in massive layoffs and unprecedented unemployment, and increased governmental intervention in business operations. Platt (2004) reports that economic conditions are the single most important factors affecting the rate of corporate failure. For the seventy years spanning 1927 to 1997, the failure rate of U.S. corporations ranged from 4 to 154 per 10,000 firms, with the lowest rate existing during World War II and the highest rates existing during times of major recessions/depressions (Platt, 2004).

There are several other factors prompting continuing change in organizations. Among these are the aging of the workforce, including rising retirement and health care costs; increased governmental regulation and regulatory uncertainty; the need for increased security due to the threats of terrorism, identity theft, and identity fraud; global economic volatility; the “green” revolution; and growing access to information and communication technologies.

As a result of this onslaught of change, businesses are challenged as to how to manage change effectively. Most of the literature in this area focuses on various theories and models for implementing change. However, it is likely that change could be effected more easily if the target of the change effort, i.e., employees, were more receptive to organizational change. In this paper, we will focus first on describing several prominent change theories and models. Then, we will focus on how organizations might enhance employee receptivity to change by considering alternative human resource development approaches that focus on factors that prepare employees to face change more positively and help employees to cope more effectively with the personal impact of change.

2. CHANGE THEORIES AND MODELS

One of the first writers to identify basic concepts of organizational change was Kurt Lewin (1947) when he discussed how individuals progress through the change cycle in three stages: unfreezing, moving/changing, and refreezing. This simple framework has been the basis for a number of more recent theories in organizational development and organizational change along with the work of Coch and French (1948) who demonstrated how employee participation could positively impact productivity and satisfaction while organizational change was in progress. From these early theories many more have developed. Some may be classified as “structural” models, others as “process” models. The following review of some of the more contemporary theories and models is not intended to be exhaustive but provides a basis for comparison among some of the more prominent approaches to organizational change. After reviewing these examples, we will review the concept of receptivity to change (also referred to in the literature as readiness for change). Finally, we will explore how human resource development (HRD) can help employees become more receptive to organizational change.

2.1 Structural Change Models

Weisbord (1976) developed an early structural change model known as the Six-Box model. This model, used to assess the functioning of organizations, identified six interdependent variables or boxes: purpose, structure, rewards, helpful mechanisms or coordinating technologies, relationships, and leadership. Regardless of the number of 'boxes' that need to be addressed based on the needs of the organization and external and internal conditions, Weisbord contends that a systematic approach to change is required because changes in any of the 'boxes' will have a systemic impact on the other 'boxes.' Weisbord's model is a generic framework and is based mainly on the techniques and assumptions of the field of organizational development.

Using a similar framework, Waterman, Peters, and Phillips (1980) presented what has been called the 7-S Framework for organizational change. It is based on two propositions: (1) that organizational effectiveness is the result of interactions among numerous factors and (2) that successful organizational change requires attention to all of the factors and their interdependencies. The factors in the model fall into seven categories: structure, strategy, systems, skills, style, staff, and superordinate goals or the vision of the organization. Changes in any one factor result in necessary changes in the other factors in the model.

Burke and Litwin (1992) developed a 12-factor model that separates elements deemed as major or second-order change (transformational) from sources of change that are considered to be incremental or first order change (transactional). The four transformational factors in this model are external environment, mission and strategy, leadership, and organizational culture. The eight transactional elements are structure, management practices, systems, work unit climate, task and individual skills, individual needs and values, motivation, and individual and organizational performance. Feedback loops are inherent throughout the model indicating that both internal factors in the organization, as well as external factors, can influence strategy and create impact. The model presupposes planned change and its focus is a top-to-bottom flow from environment to performance with feedback loops connecting performance back to the environment as well as to the other elements of the model.

Nadler and Tushman (1998) developed the Congruence Model -- an open system model that assesses the effectiveness of an organization based on the degree of congruence between the different components of the organization. These components begin with organizational context (environment, resources, and history) from which strategy is developed. This strategy leads into the transformation process which includes the informal organization, formal organizational arrangements, the individual, and the task. All of these factors are held to be interrelated. The output, which is next stage in the model, is comprised of outcomes at the organization level, the group level, and the individual level. From the output, feedback is transmitted into the context so that the process can begin anew. In applying this model, the first step is to identify systems, specify the input, and identify the output. At this point, problems can be identified and data collected on the components that are involved in the process. Then, congruence or conformity is assessed; hypotheses are generated which link the congruity analysis to the problem identified; and action steps are taken, as appropriate.

Jay Galbraith (Galbraith, Downey, & Kates, 2002) developed a Star Model for analyzing organizations based on the alignment of five major organizational components: strategy, structure, process, rewards, and people. Strategy determines direction. Structure determines the location of decision-making power. Processes have to do with the flow of information; they are the means of responding to information technologies. Rewards provide motivation and incentives for desired behavior. And finally, the selection and development of the right people — in alignment with the other policies — allow the organization to operate at maximum efficiency. Galbraith argued that focus on alignment is the key to effective organizational functioning and that strategy was the most important component. He strongly believed that strategy was the basis for design decisions. However, misalignment of any of the five components would create less than optimal performance.

Bolman and Deal (2003) proposed a Four-Frame Model, suggesting that benefits derive from analyzing organizations from four different perspectives. Each perspective is considered a "frame" and the authors have identified these "frames" as human resource, political, symbolic, and structural. The human resource frame focuses on the best fit between the organization and employees based on what each expects or desires from their relationship. If expectations do not match, this would be considered a poor fit. The political frame focuses on superordinate goals, the mission of the organization, and the need to have shared goals. The symbolic aspect addresses the organization's culture, which would include but may not be limited to values, beliefs, meanings and artifacts, where shared and conveyed meaning is most important. Structure refers to the formal design of the organization, typically represented by organization charts, policies, and procedures.

2.2 Process Change Models

As noted previously, Kurt Lewin's (1947) three-step model consisting of unfreezing, moving, and refreezing, has been the seminal process model in use. Kotter (1996) proposed an eight-step process to lead change. The steps in Kotter's model, perhaps the most prominent in use today, include establishing a sense of urgency, creating a guiding coalition, developing a vision and a strategy, communicating the change vision, empowering employees for broad-based action, generating short-term wins, consolidating gains and producing more change, and anchoring new approaches in the culture. Kotter also identified key elements to effectively communicate the new vision. Emphasis was placed on using metaphors, analogies, and examples, the use of many different forums, repetition, leading by example, and addressing inconsistencies.

The ADKAR change management model was first published in the book *The Perfect Change* by Jeff Hiatt (1998), founder and CEO of Prosci Research. Since its publication, ADKAR has become a popular model for successful change with large organizations. The term "ADKAR" stands for the five stages individuals should go through when making a change: awareness of the need to change, desire to participate in and support the change, knowledge about how to change, ability to implement new skills and behaviors, and reinforcement to keep the change in place (Hiatt, 2006).

Ford, Heisler, and McCreary (2008) proposed a 5-P Model to lead organizational change based on a case study in the hospitality industry. The five components of the model include purpose, priorities, people, process, and proof. Briefly summarized, change should have a stated purpose; specific targets of change should be identified and prioritized; people potentially affected by the change should be identified and brought into the change process; the process should use appropriate levels of direction, participation, and consultation; and the proof should demonstrate visibly and believably what the change accomplished. All of the models summarized above suggest (1) the need to recognize the interdependence of varied organizational factors in bringing about successful organizational change and (2) the need for communication and feedback among variables to ensure appropriate adjustment and alignment. Also, all of the models include, or at least imply, one variable or component related to human resources (e.g., skills, people practices, leadership, culture, communication, and empowerment). The remainder of this paper will focus on the concept of employee receptivity to change and the potential role for human resource development to enable greater employee receptivity to organizational change.

3. RECEPTIVITY TO CHANGE

"Readiness for change" and "receptivity to change" have both been addressed in the change literature; however, the concepts, as described by various authors (e.g., Armenakis et al., 1993; Self & Schraeder, 2009; Frahm & Brown, 2007), appear to be highly similar. For the purposes of this paper, these terms will be used interchangeably. Readiness, as defined by Armenakis et al. (1993), is described as the thoughts that precede behaviors as they relate to resisting or supporting change efforts. Huy (1999) defines individual readiness for change as the extent to which an individual is prepared to participate in a different organizational activity. It is viewed as the precursor to the behaviors of either resistance to, or support for, a change effort undertaken by an organization (Allport, 1967; Armenakis et al., 1993; Rafferty & Simons, 2001).

Holt, Armenakis, Field, and Harris (2007) developed a scale for determining an individual's readiness for organizational change. Results from the scale have indicated that multiple constructs must be considered when conceptualizing readiness. These constructs include the capability for implementation, the changes that are appropriate, management support, and the benefit to members or personal valence. Previously, Kowalski and Walley (1994) had determined that employee receptivity to change included a recognized need, application for their own ideas, and management support. From the models discussed previously, readiness would also include generating an awareness of the need for change on the part of employees.

Most of the change literature appears to have focused primarily on various structural factors in organizations and creating readiness through communication strategies and efforts to ensure alignment of these factors. As Mayfield and Mayfield (2002) note, leadership communication strategies can be effective in increasing worker loyalty because leader communication plays an integral role in developing and sustaining employee commitment. In addition, effective communication can also enhance organizational trust which supports employee commitment and loyalty as well as organizational outcomes (Mayfield & Mayfield, 2002).

Frahm and Brown (2007) investigated the impact of organizational change communication on receptivity to change and found a relationship between the change communication and responses from employees, suggesting that organizations need to do far more to actively involve employees instead of promoting only feelings of inclusion. The findings suggest that those leading change must ensure that managers and employees understand the change goal and that their expectations are in alignment with the change goal. Then, they must select and employ appropriate styles of communication.

Armenakis et al. (1993) helped clarify the readiness for change concept and examined how change agents can influence employee readiness for organizational change. The authors offer a model that describes influence strategies as well as the importance of change agent credibility and interpersonal and social dynamics in the readiness creation process that includes persuasive communication, managing external information, and active participation by members of the organization. In a later publication, Armenakis and Harris (2002) provide a framework for change messages and discuss how change messages are used to manage information, encourage active participation, and provide persuasive communication. “DAVES” is a mnemonic that represents a modification of their framework: Discrepancy (What’s wrong with the way things are?); Appropriateness (Which is the right change to make?); Valence (What’s in it for me, and my organization? What can I/we expect to gain/lose by making this change?); Efficacy (Can I / we really succeed in making this change?); and Support (Who else is making this change? Who will support me/us (politically) in making this change?)

3.1 Support for Change

Communication is not the only need that is shared among various change approaches. Many of these models specifically note that organizational change is supported or facilitated by human resource development. Weisbord (1976) referred to “helpful mechanisms” as one of six key variables, which could include training in new processes. One of the frames proposed by Bolman and Deal (2003) identifies specifically the human resource. Other theories also imply employee development, e.g., Nadler and Tushman (1998) in the transformational stage which includes the individual and the task. Galbraith et al. (2002) also implied the involvement of human resource development in the categories of people practices, lateral capabilities, and processes. Phillips (1983) suggested that “… The company might want to launch a substantial staff training program - including on-the-job-assignments as well as ….. courses - to develop the orientations and skills required for the new era” (p. 197). Further, he stated that in situations requiring fundamental change, even the most senior of managers should undergo training in customer needs and develop new skills in analysis and evaluation. He contended that this should be a primary focus for the Human Resource function. Workshops can also clarify the organization’s goals and vision and their implications, translate high level messages into processes and individual responsibilities, and assist in developing common understanding and commitment (Philips, 1983). If employee development is not considered part of the change effort, it is unclear how a change effort could be successful.

3.2 The Role of HRD in Effecting Change Readiness

It is the contention of the authors that there is a lack of sufficient attention in the literature to the role that human resource development (HRD) can play in organizational change and in preparing employees for continuous change. Senge (1990) has asserted that organizations can remain effective and competitive only by becoming “learning organizations.” However, Mumford (1992) pointed out that a learning organization depends on individuals and their commitment to learning and developing their skills. If people do not develop and learn, the organization is unlikely to change, at least in the desired direction. This position was further developed by Jamali, Khoury, and Sahyoun (2006) when they noted that bureaucratic organizations must evolve into learning organizations if they are to survive the challenges they face in social, economic, and global arenas.

Also asserting that it is only through individuals that organizations actually change, Desplaces (2005) suggested an individual change model. The model proposes that individuals derive meaning from their subjective perceptions of what is happening in their organization, and these perceptions affect individual readiness for change. Garavan, Barnicle, and O’Suilleabhain (1999) call for a more integrated model of HRD in organizations to more effectively develop managers because they can unlock potential in their subordinates and because development, by definition, is focused on the future. Development is also necessary to achieve employee ownership and commitment and, therefore, must be supported by management. Sinclair and Collins (1992) have also suggested that new skills are required of individuals to effect organizational change, but that developing these skills may be a challenge because they are constantly being redefined within the business context and are, therefore, difficult to predict. Unfortunately, Jenkins (1992) notes that organizations often do not see training and development as an investment in human resources. Rather, they view it as a cost to be controlled and even reduced.

Drew and Smith (1995) propose that organizational readiness is the best way to support the success of change efforts and have suggested a framework through which an organization can develop its ability to transform by recognizing and responding to early clues. They contend that a model that would be able to accomplish this must address four organizational features: (1) focus (direction and vision), (2) will (strength of strategic intent), and (3) capability (may include core capabilities, key service delivery technologies, core competencies), as well as (4) the ability and freedom to take necessary action.

Past change failures must also be reflected upon to allow an organization to learn and avoid making similar errors in the future. For example, benchmarking and process improvement can provide learning opportunities, whether or not they have been successful. Finally, organizations need to look at existing practices and managerial activities as continuous learning opportunities, not only to generate specific improvements but also to share effective practices with the rest of the organization. Formalizing processes to evaluate and learn from projects and other organizational actions not only establishes patterns and expectations for employees, but it also provides opportunities for employee participation which has been shown to increase receptivity to change. In that way, organizational learning becomes ingrained within the culture.

An organization cannot change unless the people in the organization change and, in turn, create the changes needed by the organization. This may require re-education, additional training, personal development, on-the-job training or other ways of preparing for improved performance. Realistically, employee development may take on many different approaches depending on the needs of the employees and the organization. Although specific skill training may be needed, many employees may not even possess an understanding of basic organizational requirements. A survey by Barker et al. (1998), which included business executives from twelve Fortune 1000 companies, found that basic skills were lacking in interpersonal relations as well as in speaking and writing. Further, many employees were not aware of the interdependence that exists within an organization and the critical need for effective communication to provide needed coordination of actions. Also, the survey identified a need for receptivity to change, with employee complacency noted as a major cause of employees’ resistance to change.

The human resource profession itself has tried to identify and develop competencies for the future and found that only 10-35% of human resource professionals possess the competencies thought to be needed for the future (Yeung, Woolcock, & Sullivan, 1996). Senior human resource executives identified these needs as follows: knowledge of the business (90%), the capability to facilitate and implement change (60%), influence skills or leadership abilities (50%), and organizational effectiveness, consultation or organizational development skills, and strategic or systematic thinking (40% each). These key knowledge, skills, and abilities (KSAs) are considered core skills in the HR competency model, whereas traditional HR expertise such as designing and delivering HR services effectively was seen as necessary, but not considered core skills. To address this competency gap, organizations reported that three key strategies were needed: performance management, training, and development. The survey further revealed that learning opportunities are created through coaching and mentoring, job assignments, and peer learning (70%). Only 10% of respondents reported formal training as a useful source for learning (Yeung et al., 1996).

Citigroup has also acknowledged the critical role played by HRD when shifting to a more sustainable organizational model (Harker, 2005). The top two of five initiatives employed by Citigroup to effect positive organizational change were expanded training and enhanced focus on talent development. The increased focus on talent development was seen as strengthening Citigroup's commitment to help managers achieve their full potential. This was to be achieved by expanding executive development programs, developing annual anonymous feedback to all senior managers with 360° reviews, and providing executive coaching.

Rider (2002) also identified coaching as a strategic intervention where individual development occurs, as well as the development of the coach, by providing a learning cycle in which the learning of the coach is captured and returned to the organization by evaluating the effectiveness of the coaching intervention.

Luthans, Vogelgesang, and Lester (2006) recognized the importance of developing employee resiliency, defined as a positive psychological development state. The authors proposed that organizations with resilient employees are better able to adapt and be more successful over time. Further, they proposed proactive and reactive HRD strategies to develop employee resiliency. The proactive factors include (1) increasing psychological assets such as providing personal and organizational resources, (2) decreasing risk and stress factors, and (3) facilitating processes that allow human resources to enhance their resilience such as by improving their cognitive abilities. Reactive HRD focused on teaching employees how to respond to adversity, e.g., developing employee confidence and optimism by reminding employees to think positively or see problems as opportunities. Employees who have greater confidence are likely to also display greater resiliency. Finally, Luthans et al. (2006) acknowledge that both proactive and reactive approaches are necessary in preparing employees for change because it is not possible to control all of the variables in the environment.

4. USING SELF-EFFICACY TO INTEGRATE AN HRD APPROACH

In previous sections, numerous research studies have been reviewed that suggest HRD can be instrumental in enhancing employee receptivity to change. The authors propose that these findings can be integrated by focusing developmental efforts on the enhancement of employee self-efficacy at all organizational levels. Bandura (1994) defines self-efficacy as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Based on his work, organizations could employ various human resource development programs to enhance employees' self-efficacy and, thereby, enhance their receptivity to change. Further, more than 20 years of research (see Betz, 2000; Betz & Hackett, 1981, 1997) have indicated that self-efficacy expectations significantly influence career choices, performance, and persistence. That is, individuals with higher self-efficacy are more likely to face change with a sense of confidence and persevere in the face of difficulties versus those with lower levels of self-efficacy.

First, Bandura contends that the most effective way to create a strong sense of efficacy is through mastery experiences. Organizational HRD departments can undertake training activities such as outdoor adventure training to develop one's sense of confidence in overcoming obstacles. The term 'outdoor education' is used quite broadly to refer to a range of organized developmental activities which take place in a variety of ways in predominantly outdoor environments. Some typical goals of outdoor education are to learn how to overcome adversity, improve problem solving skills, and enhance teamwork and personal development. All of these goals contribute to an employee's ability to cope with change successfully and, therefore, should enhance an employee's receptivity to change events. While there is still controversy related to the impact and utility of outdoor education programs, a major meta-analysis of 97 empirical studies (Hattie, et al., 1997) indicated that these programs had a positive overall effect on outcomes such as self-concept, leadership, and communication skills.

Mastery experiences can also be created through various forms of assignments involving challenge and "stretch." Strategies for building mastery include strategic assignments, job rotation, task force participation, and action-learning projects (Leading Effectively e-Newsletter, November 2010). Temporal and Burnett (1993) contend that strategic international assignments enhance mastery through experiential learning and through being forced to use a high level of imagination and entrepreneurship. Similarly, Caligiuri and Phillips (2003) found that providing realistic previews to candidates for international assignments increased the candidates' self-efficacy for an international assignment. Action learning projects enhance self-efficacy by involving employees in working on real company problems in task forces or related structural devices. As a result of enhancing learning through action, employees gain a better understanding of their organizational environment and become physically and mentally involved in the learning process, thereby enhancing their ability to address future issues and problems. The success gained in these action-oriented experiences will also provide positive reinforcement for employees, again enhancing self-efficacy.

Performance management processes are also seen to have developmental outcomes that relate to mastery. For example, the implementation of results-oriented performance management approaches such as MBO, which involve goal setting and feedback, are likely to have a positive impact on the development of employee confidence and self-efficacy as the employee gains success in achieving "stretch" goals. Even periodic failures could be useful, if framed correctly, in preparing employees to overcome future adversity. A resilient sense of efficacy is developed as a person is able to overcome challenging obstacles through perseverance, an experience which provides assurance of one's capabilities and which allows a person to endure setbacks and failures without loss of confidence (Applebaum, 1996).

Second, Bandura suggests that another way of creating and strengthening beliefs of self-efficacy is through vicarious experiences provided by social models. The assignment of successful, proactive mentors to employees by human resource management functions could be helpful in this regard. For example, studies of nurse practitioner students and their clinical teachers have shown that effective mentors enhance the self-confidence of students to handle advanced studies (Hayes, 1998). Similarly, in the field of education, Margolis (2005) has suggested that adult tutors are in an excellent position to enhance the self-efficacy of struggling learners if the tutors understand the sources of self-efficacy and how it may be strengthened. An effective mentoring relationship will require both the mentor and the mentee to engage in challenging activities, develop trust, utilize new skills, and exhibit different behavior patterns (Heimann, 2000; Pittenger & Heimann, 2000). Mentoring also provides a supportive social environment that both encourages the employee and, when needed, provides counsel in overcoming adversity. As suggested previously, involvement in action-learning activities will also provide an opportunity to observe effective social models in the problem-solving arena.

Third, Bandura contends that social persuasion, i.e., encouragement and support from others, is also helpful in strengthening people's beliefs that they have what it takes to succeed. Team building activities involving employees in difficult, but manageable, exercises may be useful as a means to promote the development of skills and encourage employees in their abilities. As noted previously, performance-based appraisal such as that associated with Management by Objectives can also be instrumental in strengthening self-efficacy. As attainable stretch goals are set and achieved, employees will see that they can be successful in challenging circumstances. However, for this approach to be most effective, managers should be trained in how to set performance goals that are challenging, yet attainable, and trained in how to counsel employees to provide positive reinforcement and encourage continued success.

Similarly, on-going counseling as part of an individual development planning process should be helpful in enhancing employee self-efficacy. Baron and Morin (2010), for example, have demonstrated the impact of executive coaching on self-efficacy on management soft-skills. Their research showed that a number of coaching sessions spread over a period of months had a positive and significant relationship with post-training self-efficacy. Another study by Moen and Allgood (2009) provided similar results regarding the efficacy of coaching in developing executive self-efficacy. Coaching improved the executives' abilities to analyze tasks, to analyze their capabilities regarding these tasks, to set better goals for themselves, and to better use strategies for accomplishing these tasks.

Numerous research studies have shown that charismatic leadership can have a profound effect on followers (House, 1977; Bass, 1985; Sashkin, 1988). Shamir, House, and Arthur (1993) argue that this effect is achieved by engaging followers' self-concepts in the interest of the mission articulated by the leader. Charismatic leaders increase self-efficacy by expressing positive evaluations, establishing high performance expectations from followers, and showing confidence in followers' ability to meet such expectations. Hence, the establishment of leadership development programs based on charismatic leadership principles such as communication, caring, commitment, and integrity should provide social models capable of encouraging employee effort and perseverance in difficult times.

Finally, Bandura notes that reducing people's stress reactions and altering their negative emotional proclivities may open the way to energizing performance. Decreasing these negative reactions should also improve an employee's emotional resilience and deal with difficult situations such as those involving change. Some mechanisms to address these factors would be the provision of employee orientation programs, on-site exercise programs, stress management training, and lifestyle counseling. Garmezy and Masten (1991) define resilience as a process, ability, or outcome of successful adaptation despite challenges or threatening circumstances. Resilience involves maintaining flexibility and balance in life as one deals with stressful circumstances and traumatic events.

An effective new employee orientation program can reduce the "new employee stress" factor. Everyone, even new CEOs, experiences some level of anxiety and stress when starting a new job at a new workplace. Implementing an employee orientation program that emphasizes the "people" factor at work as well as job tasks and responsibilities will help new employees feel more at ease. Also, assigning a mentor or a "buddy" for the orientation period can also be useful in this regard as noted in previous parts of this section. Effective orientation programs can also be the first stage of developing a positive, can-do attitude at the beginning of a new employment situation. Explaining company expectations, providing the "ground rules" for performance, and identifying sources of support, provides answers to many of the questions that employees have in a new work environment.

The research of Ab Alvan and Ab Alvan (2009) and others demonstrate that exercise has a positive impact on an individual's level of mental health and adjustment or resilience; it is a protective factor in threatening events. Blumenthal and others (2005) have reported that exercise and stress management training reduced emotional distress among cardiac patients more than usual medical treatment alone. Several additional studies have shown that stress management training can produce significant results in subjective well-being and physical health (Backman et al., 1997; Cecil & Forman, 1990). However, not all stress management training programs in work organizations appear to be effective. Those that yield positive outcomes tend to be well-designed and carefully implemented. A good example would be the holistic program jointly undertaken by Corning, Inc. and the National Institute for Occupational Safety and Health (NIOSH). This voluntary program was widely promoted within Corning with a variety of information sessions, included practice in a variety or stress management sessions over a period of 8-12 weeks, and provided for low-cost follow-up with a local health club where participants could continue practicing their techniques after the program conclusion. The Corning program was also shown to impact the social and emotional competencies of employees, including self-confidence and adaptability (Monroy et al., 1997).

To promote a positive work culture that minimizes unhealthy stress, human resource managers and training departments can also promote employee empowerment and participative management practices. Many studies indicate that employees are more receptive to change that ensues when they have participated in making decisions that affect them (see, for example, Lawler, 1986; Smith & Torppa, 2010; Saludin, 2005). Hence, organizational actions supportive of participative management practices would be beneficial. Other approaches oriented toward providing open communication (Case, 1998) and enhancing organizational trust (Kotter, 1996) would also be supportive of this change objective.

Finally, work-life balance programs in organizations have been shown to reduce stress. Hill, Hawkins, Ferris, and Weitzman (2001) found that, given the same workload, individuals with perceived job flexibility obtained through "flextime" or "flexplace" have more favorable work-family balance. And, perceived flexibility in the timing and/or locations of work reduces personal and family stress by reducing or eliminating stress associated with the daily commute and reducing stress associated with the coordination of work schedules with child rearing or eldercare responsibilities. Additionally, using data from several businesses across a variety of industries, Grzywacz, Carlson, and Shulkin (2008) have indicated that stress and burnout was lower among workers engaged in all types of formal flexible arrangements, thus providing clear evidence of the value of flexible arrangements, particularly flextime. The provision and promotion of Employee Assistance Programs (EAPs) should produce similar results by helping employees reduce stress related to financial, legal, family, or related issues.

5. CONCLUSION

The suggestions provided above are only a few of the ongoing efforts that organizations can undertake through their human resource development practices to create a culture that will support change readiness and organizational sustainability. While no single action will create a culture that prepares employees collectively or individually to be more receptive to change, when used in combination, these methods will empower and encourage employees to accept accountability for their own situations and provide them with the tools needed to effectively cope with the prospect of change. The greater an employee's self-efficacy, the more likely it is that the employee will have fewer fears about impending change or its potential effects, have a more positive approach to a change effort, and exhibit greater resilience in the event of failure or a negative outcome to the change. In essence, the incorporation of a comprehensive program of positive human resource development practices, of itself, will have the effect of preparing employees effectively, i.e., creating a readiness, for future changes that may occur in the workplace.

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A COMPARISON OF HEURISTIC INVENTORY DECISION RULES TO OPTIMALITY FOR THE DISTRIBUTION OF PERISHABLE PRODUCTS

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ABSTRACT

In an attempt to advance the research on distribution of perishable goods, the present study has addressed three important questions: 1) How might decision makers choose decision rules that better serve the objectives of a given firm?; 2) What are the significant variables in making policy decisions in highly perishable product environment?; and 3) Is there a significant difference between the performance of a given decision rule in one policy environment when compared to the performance of that same rule in an alternative policy environment? The reported results indicate that decision rules play a significant role in the distribution of perishables. It has also been demonstrated that there are several alternative rules available to decision makers, and this study has provided insights with regard to estimating the differential effects of following the various rules. Based on the analysis given in this present study, the routemen's heuristic is the recommended rule from among those examined in relation to the distribution of perishable goods.

Keywords: *Perishable Goods; Heuristic Inventory Decision Rules; Policy Environments*

1. INTRODUCTION

Research on the distribution of perishable products has already made some significant advances. For example, a classical study by Badgett and DeHays (1976) has pointed out that the rankings in one environment suggest that rules do not operate in the same manner as they do in another environment in which perishable products are distributed. A more recent empirical article has reported findings from a study using a fixed time increment simulation model that investigated the financial and operational performance of various inventory decision rules in a highly perishable product environment (Badgett, Elenkov & Lamb, 2010). A follow-up article (Badgett, Elenkov & Shumway, 2011) has extended that analysis by manipulating key parameters in Badgett, et al.'s (2010) model of efficacy of alternative decision rules for highly perishable consumer goods, and Badgett, Elenkov and Shumway's study has also measured the associated outcomes. That study has taken advantage of a set of experiments for the rural cake environment, and the results have indicated that both shortages and outdating are difficult to control. The reason suggested for this difference is that the performance variables are highly sensitive to the delivery schedule. In addition, Badgett et al.'s (2011) study has demonstrated that the various decision rules have significant effects on the operating performance of firms engaged in the distribution of perishables.

2. THE PRESENT STUDY

Based on the preceding analyses, three questions have emerged as most critical: 1) How might decision makers choose decision rules that better serve the objectives of a given firm?; 2) What are the significant variables in making policy decisions in highly perishable product environment?; and 3) Is there a significant difference between the performance of a given decision rule in one policy environment when compared to the performance of that same rule in an alternative policy environment? The present study addresses these really important issues.

3. RESEARCH QUESTIONS: THEORY, METHODOLOGY, RESULTS

3.1. Research Question 1

3.1.1. Decision Rule Selection

The first question investigated in the current study is: "How might decision makers choose decision rules that better serve the objectives of a given firm?" In connection with this issue, one should recognize that the selection of a decision rule is no easy task. The decision process is complicated by a variety of factors. There are some guidelines, however, and some of the most important factors are discussed next

3.1.2. Analytical Tools

To do an effective job in selecting a decision rule, analytical tools are a must. This study, for example uses simulation as the principal vehicle for analysis. Of course, in order to effectively use simulation, one must have some knowledge of programming, modeling, inferential statistics, and experimental design. In addition, a great deal of data has to be collected and analyzed. The technique is often time consuming and expensive. Even so, the danger exists of not knowing when the task is completed when simulation is used to evaluate alternative decision rules. The reason for the possible uncertainty is that simulation can make no claim that optimal solutions have been found. These pitfalls give rise to the need for having a plan for analysis of the simulation results.

3.1.3. Analyzing the Results

The various tools used in this study greatly facilitated the choice of decision rules with the estimates obtained via simulation. The simple ranking of responses was a good first step. The shortage-outdating operating curve was quite helpful. The cost-profit analysis was somewhat helpful. None of these techniques should be relied upon in isolation, however. A thorough analysis requires all of these in addition to some qualitative analysis of other factors such as the sales carryover influence and the sales to inventory ratio.

3.1.4. The Optimal Solution

In spite of all the efforts cited above to facilitate the selection of a decision rule, there are those who will not be convinced that the selection is the best one. It was possible to go one additional step and derive an optimal solution via dynamic programming. This step requires several simplifying assumptions for most perishable inventory problems; nevertheless, the optimization results can be comparative purposes.

This step was accomplished for the study described herein. The model and the results of these tests are discussed next. The dynamic programming model is based on the following:

1) An optimal policy is derived for one store and one product.
2) The product (bread) has a life of two days.
3) Demand for the product is equal-probable over the range from zero to nine. The parameters for the distribution of demand are constant from one day to the next.
4) Inventory depletion is stochastic and follows the hyper-geometric distribution as given below, by $(P_h|d)$.
5) The planning horizon is 50 days.
6) Deliveries occur daily for all seven days of the week.

The dynamic programming recursion can be presented, as follows:

Let: $V_n(i)$ = minimum policy cost when entering inventory is at level I with n more days to go.
$X_n(i)$ = the quantity stocked which yields $V_n(i)$.
C = cost of one unit = 0.375 (in dollars)
C_1 = shortage cost = 0.015 (in dollars)
C_2 = revenue for selling a stale unit = 0.350 (in dollars)
R = revenue for selling one unit = 0.38 (in dollars)

The basis for the recursion is: $V_0(i) = 0$; for i = 0, 1,…,9. That is, the minimal cost during the final period is zero regardless of the quantity of day-old units in inventory. For periods other than the final period, the minimal cost is given by a formula presented in the next page.

In summary, the recursion given above works backward from zero more days to go, one more day to go, and so on, until there are fifty days to go. The minimal cost order policy is thus derived for a fifty-day planning horizon when there are fifty more days to go and the entering level of inventory is known (The entering inventory was assumed to be zero in order to compare the dynamic programming results to simulated results).

$$\underset{0\le x\le 9-i}{\text{minimum}} \left\{ Cx + C_1\left[\sum_{i+x\le d\le 9} P_d(d-i-x) + \sum_{d\le i+x} P_d(0)\right] - C_2\left[\sum_{0<d<i+x} P_d(i+x-d)\left(\frac{i}{i+x}\right) + \sum_{i+x<d} P_d(0)\right] - R\left[\sum_{i+x<d<9} P_d(i+x) + \sum_{0<d<i+x} P_d(d)\right] + \sum_{i+x<d<9} P_d \cdot V(n-1,0) + \sum_{0\le d\le i+x} \left\{ \begin{matrix} x\le d & \sum_{0\le j\le \min\{x,x+i-d\}} P_h(d)\cdot V_{n-1}(j) \\ d<x & \sum_{x-d\le j\le \min\{x,x+i-d\}} P_h(d)\cdot V_{n-1}(j) \end{matrix} \right\} \right\}$$

where

$P_d =$ probability that the demand is d ,

$P_h(x-j|d) -$ conditional probability that $x-j$ of the fresh units were sold given that demand is d , and

$$P_h(d) = \frac{\binom{i}{d-x-j}\binom{x}{x-j}}{\binom{i+x}{d}}$$

3.1.5. Results

The recursion was programmed in FORTRAN in order to obtain the numerical results. The simulation model for bread was adapted so that it conformed to most of the assumptions of the dynamic programming model. The simulation model was run for a period of 50 days. A total of 30 runs were made in order to compute the means of the variables in question. The results of these steps are reported below in Table 1. The conclusion from Table 1 is that the best rule from simulation was Rule 4 with a loss of 39 cents. The dynamic programming model yielded a loss of 16 cents. By definition, the dynamic programming model should yield the minimum cost, and it did. The results from the simple rules are close enough, however, to the dynamic programming results for one to conclude that the simple rules are probably effective. This conclusion is subject, of course, to the usual caveats about small sample sizes and incremental cost estimates. In addition, it should be pointed out that the simulation did not modify the delivery behavior to conform to all of the dynamic programming assumptions. That is, deliveries in the simulation were not made on Wednesdays. For the purpose at hand, however, the results are comparable.

TABLE 1: A COMPARISON OF THE PERFORMANCE OF THE FOUR SIMPLE RULES TO THE OPTIMAL SOLUTION: SIMULATION VERSUS DYNAMIC PROGRAMMING

Policy	Cost
Decision Rule 1 (Current Company Policy)	-$0.490
Decision Rule 2 (Author's Heuristic)	-$0.735
Decision Rule 3 (Rule from the Literature)	-$0.770
Decision Rule 4 (Routemen's Heuristic)	-$0.390
Optimal Solution	-$0.160

In summary, a variety of techniques should be used in the decision rule selection process. Important criteria for this decision in this study included the following:

1) the shortage effects attributable to each rule,
2) the outdating effects attributable to each rule,
3) the effects of these variables on profits and costs, and
4) other factors such as the sales to inventory ratio and sales carryover behavior.

A comprehensive analysis would also include an attempt to compare the performance of each rule to the results obtained by an optimization technique such as dynamic programming.

3.2. Research Question 2

3.2.1. Decision Variable

The next question, which we have attempted to tackle is: "What are the significant variables in making policy decisions in highly perishable product environment?"

This study has demonstrated that the performance of distribution systems for perishables is in many ways affected by the following variables: (1) the decision rules followed by distribution decision makers, (2) the length of shelf life of the products distributed, (3) the inventory depletion behavior (or issuing policy), (4) the delivery schedule (or frequency of delivery), and (5) the level of demand at each SKUL.

Decision rules, for example, were shown to affect shortages and outdating in a complex manner. Some rules represented a shift along the shortage-outdating operating curve. One rule (Rule 4, routemen's heuristic) exhibited an abrupt "dip" from the expected shape of the curve in two environments of these experiments. The shelf life of a product was found to vary indirectly with shortages and outdating. That is, as a product's shelf life is increased, shortages and outdating decrease. The inventory depletion behavior has been examined at length in the optimization studies on inventory control. A few abstract examples have been provided where LIFO is of value in a perishable product setting.

FIFO is usually the best issuing policy, however. The delivery schedule effects reported in this study show that the more frequently a store (or SKUL) is serviced, the less outdating and shortages will be incurred. Finally, higher levels of demand were found to decrease the relative amount of shortages and outdating in this study. That is, rare blood types were found to incur excessive outdating and shortages as compared to common (and high usage) blood types.

Some of the variables described above, however, are not strictly controllable for all organizations engaged in the distribution of perishable items. Specifically, this study describes an industry which has very little control over the inventory depletion rule and the level of demand at each SKUL. In addition, product lifetimes are very difficult to control for any given firm in the industry.

3.2.3. Policy Alternatives

Given these restrictions on the controllable variables, the following question becomes important: What major policy alternatives are actually available to decision makers?

For the baking industry, the policy alternatives include variations in distributing decision rules and changes in delivery schedules. Figure 1 below shows the relationship among the controllable variables and policy alternatives in this perishable product environment.

FIGURE 1: THE MAJOR CONTROLLABLE VARIABLES AND POLICY ALTERNATIVES FOR THE BAKING INDUSTRY

Inner Circle – Controllable Policy Alternatives
Outer Circle – Uncontrollable Policy Alternatives
Complete Diagram – Important Variable in the Distribution of perishables

Although this set of variables would be important in the distribution of almost any perishable item, the classification of controllable and uncontrollable variable would depend on the product or item in question. For example, the issuing policy may be controlled in the distribution of human blood. Figure 1 applies to the bakery products from industry as well. On the other hand, human blood would have an entirely different set of controllable variables.

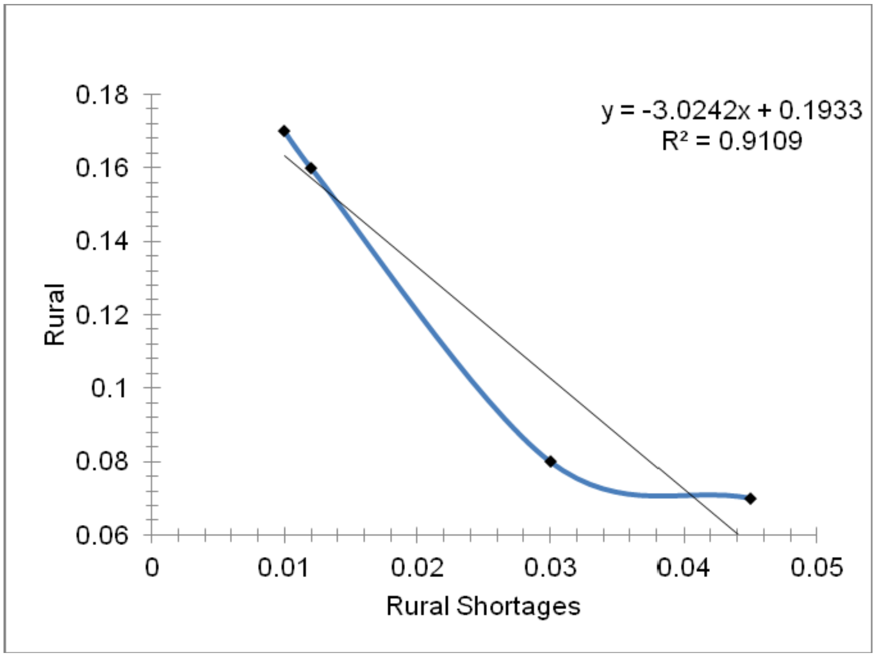
3.3. Research Question 3

The final research question we have tried to answer in this study is: “Is there a significant difference between the performance of a given decision rule in one policy environment when compared to the performance of that same rule in an alternative policy environment?” This question is discussed next.

3.3.1. Differences Among Environments

All differences between the environments in this study must be regarded as significant from a statistical point of view. The observed differences are attributable to the fact that each environment is deterministically different from the rest. For example, the metropolitan bread environment gives results different from the results obtained in rural bread environment because the delivery schedules are different in each environment. In addition, the number of stores on each route and the demand parameters for each store are not the same for these two environments. Likewise, the metropolitan cake environment differs from the rural cake environment on these factors. Thus, all differences are assumed to be significant. These differences, therefore, need only to be evaluated from a practical point of view.

FIGURE 2: THE SHORTAGE-OUTDATING OPERATING CURVE FOR THE RURAL BREAD ENVIRONMENT



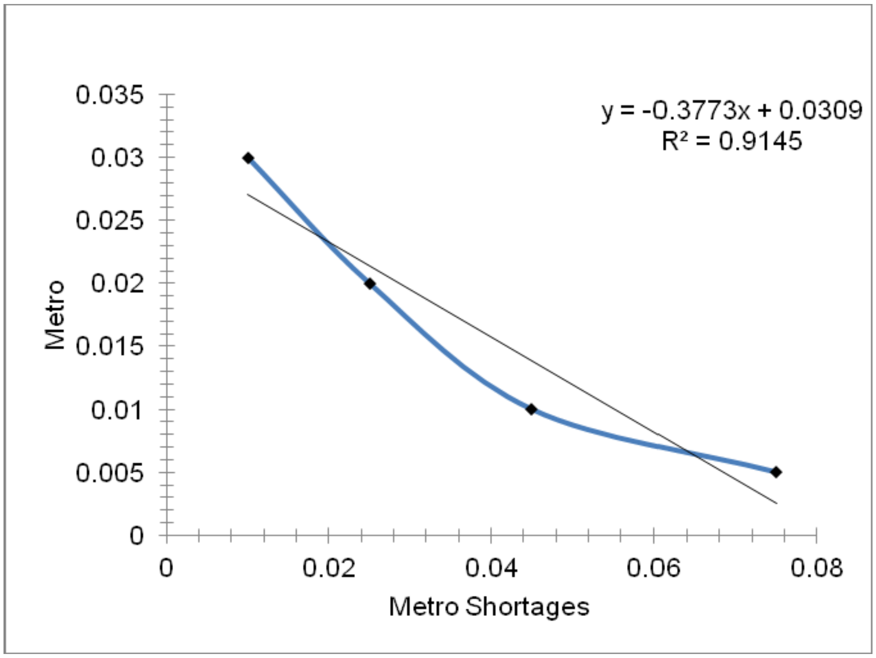
An effective way to understand the importance of the differential results observed in the various environments of these tests is to examine them via the shortage-outdating operating curve. Figures 2 and 3 below have been constructed to facilitate these comparisons.

Observe in Figure 2 that the rural bread environment can be viewed as a shift outward from the metropolitan bread environment when the two shortage-outdating operating curves are compared. What this means, of course, is that the results obtained in the metropolitan bread environment are significantly better than the results obtained in rural bread environment. The shift is even more significant in Figure 2 where the results obtained in the rural cake environment are shown to be manifestly inferior to the results obtained in the metropolitan cake environment.

Is it correct to conclude that it is always better to have the more frequent delivery schedules represented by the metropolitan routes? Not exactly, for the following two reasons: (1) Some of these differences may be attributable to differences in demand parameters between urban stops and country stop; and (2) the more frequent delivery schedule constitutes an additional expense to the baking companies which may not offset the gains from reduced shortages and outdating.

In order to provide a more precise answer to the question, some additional runs were made with the model. It was learned that identical demand parameters between environments yield results very similar to those observed in Figures 2 and 3. That is, the demand parameters have very little effect in separating the shortage-outdating operating curves. Nevertheless, the problem remains as to whether or not it would pay to have the more frequent delivery schedules for rural routes. This issue is discussed next.

FIGURE 3: THE SHORTAGE-OUTDATING OPERATING CURVE FOR THE METROPOLITAN BREAD ENVIRONMENT



3.3.2. Increasing the Number of Deliveries of Bread Products to Rural Stores

The key differences between the metropolitan bread and the rural bread environments are that Sunday deliveries are not made for the rural stores. The controllable variable of interest here, therefore, is whether or not to add a Sunday delivery for rural stores. An estimate of the effects of altering the delivery schedule is given in Table 2. The addition of a Sunday delivery for bread products is not justified by the estimates shown in Table 2.

3.3.3. Increasing the Number of Deliveries of Cake Products to Rural Stores

The primary distinction between urban cake routes and rural cake routes is also the delivery schedule. Rural stops are services either two or three times a week. Metropolitan stores are usually serviced five days a week.

The difference between the shortage-outdating operating curves for the metropolitan and rural cake environments is extreme. Given the high cost of stale cake and the substantial reduction in outdating from one environment to the next, there appears to be much to gain by altering the delivery schedule. Estimating the effects of making this change is quite difficult, however. The same decision for bread products was simpler because it is subject to a rather elementary analysis of the marginal costs and savings involved (such as the one presented above). A change in the delivery schedule for rural cake products, however, would require the addition of new routes. This requirement would give rise to the need for more trucks, more regular employees, and the altering of bread and cake stops on the various rural routes. Obviously, the consideration of these factors is beyond the scope of this study.

In spite of the difficulties of obtaining cost estimates, it is possible to estimate the savings for a typical route by altering the delivery schedule for cake. Observe in Figure 2 that a reduction in outdating of approximately 7.5 percent occurs between the performance of Rule 4 in the metropolitan cake environment and the rural cake environment. Following an estimation procedure similar to that given in Table 2, the annual saving (before any costs are considered) would be approximately $1,200 per route.

Thus if the change could be made at a cost less than $1,200 times the number of rural routes operating in a given market area, then the proposed change would have some merit.

TABLE 2: ESTIMATING THE EFFECTS OF ADDING A SUNDAY DELIVERY: RURAL BREAD ROUTE

Wages for the routeman ($30 per Sunday for 50 weeks)[(a)]		$1,500
Transportation Costs ($30 per Sunday for 50 weeks)[(b)]		$1,500
Total Cost		$3,000
Annual savings in stale costs for a typical rural route: [(c)]		
Average sales of all bread products:		340,000 units
Reduction in stale units:		5%
		17,000 units
Unit cost of a stale:		X .025 dollars
Annual savings:		$ 425
Difference: $2,575	$425 – 3,000 = -	

(a) Sunday wages are $30 per person per day. This is considerably less than wages for a regular day, but it is the going rate. Part-time workers, usually college students, are attracted by the chance to earn $120 a month for about 24 hours of work.

(b) The transportation costs are approximately equal to labor costs for the firm in question.

(c) The estimates given here were obtained from company records except for the estimated percentage reduction in stale. This estimate was obtained from Figure 2.

4. LIMITATIONS OF THE STUDY AND FUTURE RESEARCH

Several limitations should be pointed out with respect to the methods and results of this study. First, most users of simulation realize that it is a technique of last resort. All of the limitations that ordinarily apply to simulation also apply to this study. Second, the study would have benefited by the collection of demand data in different geographic regions. The authors were unsuccessful in obtaining the necessary funds to carry out data collection in several different cities. It is hoped that the data collected in Indiana do not differ significantly from data in other regions. A third limitation concerns the scope of the project. The results reported here apply only to the distribution of bakery products. Many other perishables in industry are comparable to bakery products, and the results reported here should be of more general interest than prior attempts to model the distribution of human blood. Nevertheless, the results reported here can be generalized with confidence only to bakery products.

Future research possibilities are numerous for this topic. Attempts to find an optimal ordering policy via optimization for a product with general life should no doubt continue. Simulation experimentation could take a variety of future research avenues. Additional decision rules can be examined, for example. The modeling of different items such as meat and dairy products appears fruitful. Finally, field experiments—in which decision rules are actually changed for a sample of SKUL's—would appear to have much to offer the literature of logistics.

5. CONCLUSIONS

The results reported here indicate that decision rules play a significant role in the distribution of perishables. There are several alternative rules available to decision makers, and this study has provided insights with regard to estimating the differential effects of following the various rules. Based on the analysis given in this study, the routemen's heuristic is the recommended rule from among those examined.

An analytical procedure was explained in this study whereby decision makers can investigate the effects of following various decision rules. In addition, some generalizations are given concerning the important distribution policy alternatives of highly perishable product environments.

Finally, this study compares the performance of the four decision rules in different policy environments. The conclusion was that rural routes give rise to consistently higher levels of outdating. This finding brought up the question of whether or not it would be wise to alter the delivery schedules of rural stores so that they are serviced in the same manner as city stores. For bread products, the recommendation was that this change should not be made. For cake products, the analysis is insufficient to support a recommendation.

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A HYBRID PUSH-PULL MODEL BASED MULTIAGENT SUPPLY-CHAIN SYSTEM WITH EQUILIBRIUM ANALYSIS

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ABSTRACT

This paper describes the design of UAM-TAC, a multi-agent based supply-chain system that competed in TAC SCM (Trading Agent Competition Supply Chain Management) 2007. UAM-TAC consists of a procurement agent, an inventory agent, a production agent, a bidding agent and a delivery agent. By employing the equilibrium policy derived from the projected dynamic system, UAM-TAC establishes a game-theoretic hybrid push-pull model to control the supply chain system through the interactions among the agents. The game performance demonstrates that UAM-TAC is very responsive to the market price fluctuations and capacity variability. It's observed that the system can adjust its plan based on the feedback from the market quickly and they jointly control the component costs and selling price at a reasonable level.

Keywords: *Multi-agent, Supply chain, Push-Pull model, Market change, Market share*

1. INTRODUCTION

TAC Trading Agent Competition Supply-Chain Management (TAC SCM) game presents a challenging scenario for agents to compete in a simulated market. A typical SCM game includes six participants and a duration of 220 virtual days (which lasts approximately 55 minutes in real time). Players procure computer components from suppliers in the component market, make production scheduling plan, produce computers and sell them in the computer market. In order to prevail in games, a team has to design a supply-chain system with appropriate procurement strategies, production plans, and bidding strategies to deal with the significant uncertainty involved in these games. At the end of a game, the team with the highest sum of money in the bank wins.

The TAC SCM games are characterized by the great uncertainty involved. These uncertainties are partially caused by the two simultaneous auctions in both the component market and the product market. The market price fluctuations and production capacity variability add another level of complication to the decision making process. To cope with the significant uncertainty involved in the games, we employ a hybrid push-pull model to control the procurement, production and sales activities of the system. The push element in the system is based on the forecasts of future component consumption and production capacity, thereby making long-term planning feasible. Additionally, a push element is exploited to take advantage of the price discount for long-term procurement. On the other hand, in order to react and adapt to the market promptly, UAM-TAC also adopts a pull element catching feedback from market or downstream subsystems to control the activities in the upstream subsystems.

Meanwhile the effectiveness of decision making of the multi-agent system is significantly dependent on the strategies of other agents, thus, configuring other agents' behavior to simulate is critical (Nash, 1951). Game theory is used as stability criteria to evaluate the plausibility of populations in much research of supply chain management and multi-agent system. The novelty of the proposed projected dynamic system (Nagurney and Zhang 1996) allows one to capture distinct flows, in particular, logistical and financial within the same network system. Moreover, we are able to observe, through a discrete-time process, how the prices as well as the commodity shipments are adjusted from iteration to iteration (time period to time period), until the equilibrium state is reached. The equilibrium prices and shipments, thus, offer a benchmark for the push and pull elements.

The challenges lie in how to organize the supply chain system in a way that it is both adaptive and responsive to changes in the environment without constant human guidance and intervention. To this end, the paper describes how UAM-TAC, a multi-agent based supply chain system that will be competed in TAC SCM 2007, was designed and driven by the hybrid push-pull model. We will focus on describing the design of each individual agent in UAM-TAC and the interactions among these agents. Particularly, UAM-TAC models each subsystem of the supply-chain system as an individual agent in a cooperative way. It consists of a procurement agent, an inventory agent, a production agent, a bidding agent, and a delivery agent. The procurement agent makes procurement plan and dynamically adjusts its plan based on feedback from other agents (the sales agent, etc.) and the market. Particularly, the inventory agent manages the component and product inventory; the production agent schedules production activities to assemble components to computers; the bidding agent receives RFQs from customers, determines which subset of RFQs to bid on and how much the price is, and returns offers to the customers; the delivery agent delivers the computers to customers in a timely fashion to avoid penalty.

The contribution of this paper is as follows: (1) a hybrid push-pull model to control the procurement, manufacturing and bidding activities and compete in a real competition environment. (2) A projected dynamic system to provide an equilibrium price and production quantity. (3) A multi-agent framework in which agents cooperate together to realize a hybrid push-pull model and work collectively to improve the system performance. By implementing a hybrid push-pull model based on a multi-agent framework, we are able to provide a system with a degree of continuity and autonomy. Experimental results illustrate that agents in our system are able to execute processes or carry out activities in a flexible and intelligent manner.

The remainder of this paper is organized as follows: Section 2 introduces the related work; Section 3 describes the motivation and specifics for the hybrid model; Section 4 presents the multi-agent framework of UAM-TAC and the agents in the framework, including description for these individual agents; Section 5 proposes Projected Dynamic System to obtain equilibrium solution; Section 6 presents the actual experimental results and provides analysis based on these results; Section 7 concludes the paper.

2. RELATED WORK

The TAC SCM games have been held for three consecutive years. In this section, we review some related studies (Arunachalam and Sadeh 2005, Bell et al 2004, Buffett and Scott 2004, He et al 2005, Jaimez-Gonzalez and Fasli 2005, Ketter et al 2005, Kiekintveld et al 2004). In these related studies, virtually every aspect of the supply chain system has been studied. In particular, several production scheduling algorithms have been proposed (Benisch et al 2004). Benisch et al described a stochastic programming based order-to-build approach. Instead of just filling existing customer orders, they also fill offers based on a pricing model that associates probabilities with offers. Some researchers also studied TAC SCM from a game theoretical perspective. In order to prevail in a game, a supply chain system has to reason about the competitors' strategies, coordinate the actions of its own agents to adapt to the changing market. To reduce the effects of strategic play, Kiekintveld et al designed a distributed feedback control approach which attempted to convert a game to a control problem. There have been considerable efforts on bidding strategies (Pardoe and Stone 2004). Benisch et al 2004 attempted to find an optimal bidding policy by extending the solution to the production scheduling problem based on the expected value method. Pardoe and Stone 2004 consider the problem of finding the set of bids to customers in simultaneous reverse auctions that maximizes the agent's expected profit. In order to achieve this, the authors compare several machine learning approaches to estimate the probability of bid acceptance. Bell et al 2004 consider the supplier offer acceptance problem as a multi-stage stochastic program. In addition, the authors suggest a heuristic for solving this problem using the rollout method, following one or two stage approximations of the multi-stage stochastic program as the base policy during rollouts.

Recently, there has been a notable effort expended on the development of supply chain network models in order to formalize the study of interactions among distinct decision-makers on multitiered networks in the form of supply chains who can compete within a tier of nodes but must cooperate between tiers of nodes (Dong et al 2004, Nagurney et al 2002, Zhang et al 2003). Nagurney et al 2002 focused on both the equilibrium as well as on the disequilibrium aspects of supply chains under competition. Moreover, application of multiagent theory in supply chain management has drawn significant attention (Choi et al 2011).

In our paper, we focus on the control and coordination of the entire system, particularly on the interactions among the various agents in the multi-agent framework. The equilibrium prices and shipments serve as a benchmark for the push and pull elements. The design of each individual agent is described in order to offer a full picture of the system.

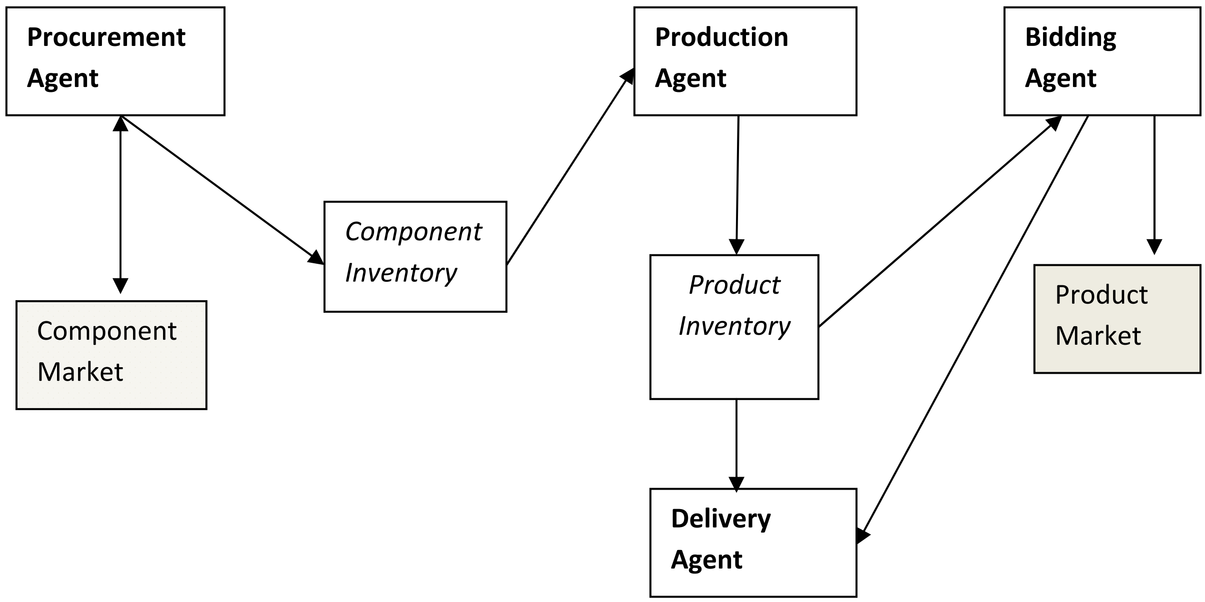

FIGURE 1: A MULTI-AGENT BASED SUPPLY CHAIN SYSTEM

3. A HYBRID PUSH-PULL MODEL

Traditional supply-chain system strategies fall into either push or pull categories. However, the significant uncertainty involved in SCM games requires a more complicated model. The hybrid push-pull strategy described in this paper is our answer to address the uncertainty. In particular, this strategy is composed of a push element for the component procurement and a pull element for production as well as additional push/pull elements based on network equilibrium and other cooperative mechanisms. A push strategy for component procurement offers a buffer for possible supplier delivery delays and enables the agent to take the advantage of low component prices in the component procurement with a late due date. A pull strategy for the product production makes the agent more responsive to the market changes. Even though the push strategy for component procurement isn't as responsive, the risk-pooling effect across the product demands can mitigate its destructive impact. Based on this simple hybrid push-pull model, our agent further improves the system performance by adding the hybrid push-pull model is realized through the interactions among the agents. Fig. 1 demonstrates the information and control flow among the agents in a supply-chain system. The goal of these interactions is coordinate and control agents to react to the market changes promptly without human intervention. The interaction processes are detailed in the following sections.

4. THE MULTIAGENT FRAMEWORK AND AGENT IMPLEMENTATION

As a complete supply-chain system, UAM-TAC consists of a number of relatively independent decision makers, who cooperate together and work collectively to improve the system performance. In this section, we describe the decision making processes for these agents in UAM-TAC.

In particular, in Section 4.1, we introduce the procurement agent and focus on its variant-horizon based procurement strategy; Section 4.2 describes an on-demand production scheduling strategies used by the production agent; Section 4.3 presents the inventory agent and inventory management strategies; the delivery agent is briefly introduced in Section 4.4 and Section 4.5 details the bidding and pricing models employed by the bidding agent.

4.1 A Variant-Horizon Procurement Strategy

A procurement process starts when a player sends RFQs to the suppliers. The suppliers return offers with delivery date and offer price based on the date and quantity information in the RFQs provided by the players, the suppliers' outstanding orders and their production capacity. Upon receipt of offers from suppliers, the procurement agent decides whether to accept the offers or not. In this section, we focus on two decision problems involved in the procurement process: (1) the delivery date and quantity information of the components in RFQs, (2) whether the price in the supplier offers are acceptable.

In making the first decision, the suppliers' pricing mechanism has to be taken into consideration. The suppliers' pricing formula is given as follows [7] in order to more accurately reflect the ratio between supply and demand in the market and avoid the notable "first-day procurement" phenomenon. The formula:

$$P_{d,i} = P_c^{base}\left(1 - \delta\left(\frac{C_{d,i}^{avl'}}{iC_d^{ac}}\right)\right) \tag{1}$$

where $P_{d,i}$ is the offer price on day d for an RFQ due on day $d+i+1$; δ is the price discount factor and has a standard tournament value of 50%, P_c^{base} is the baseline price for components of type c; C_d^{ac} is the supplier's actual capacity on day d; $C_{d,i}^{avl'}$ is an estimated available capacity factor. This formula specifies the relation between the procurement price and the demand factor iC_d^{ac} when the supply factor $C_{d,i}^{avl'}$ is fixed.

The procurements fall into two categories based on the delivery dates: short-term procurements and long-term procurements. Long-term procurements are made according to the estimation of component consumption and are commonly used in ``push'' systems. In real markets, the downside for long-term procurements is the difficulty of predicting the component demands due to the market variability. And because of the great uncertainty involved, players are wary of making long-term procurement because they risk the situations that the product prices fall below the costs. This cautiousness leads to the phenomenon that long-term procurement price is usually lower than short-term procurement price. The lower prices are the advantage of long-term procurements. On the other hand, short-term procurements allow players react to the product market changes rapidly. In particular, a *pull* system relies heavily on short-term procurements. However, the pricing formula implies a higher price for short-term procurement especially when the suppliers receive more orders than their available capacity. Accordingly, it is crucial that players can balance the trade-off so as to lower the procurement costs.

UAM-TAC adopts a variant-horizon procurement strategy based on this observation. We consider the two procurement types complementary and send RFQs with both types on a daily basis. The joint effect of short-term and long-term procurement is to keep a relatively constant component level to ensure the production activities. Particularly, a variant-horizon strategy is deployed in order to cope with the trade-off between long-term and short-term procurements. Specifically, for short term procurements, the delivery date is set as $d+k$, where d is the current date and k is a constant. The amount for short-term procurement is $EC(d+k+m) - EC(d+k-1)$, where $EC(d+k+m)$ is the expected consumption of component c by day $d+k+m$. In practice, we set both k and m as 5 so that the component orders can be received in time in order to suffice the short-term component demand. The expected inventory information, $EC(k)$, is provided by the inventory agent. The procurement agent also sends out four long-term RFQs with variant delivery dates. The delivery dates are distributed randomly from $d+10$ to $d+50$. The quantity is set as a small proportion of the expected component consumption amount in order to lower the average component procurement costs while avoiding the risk of ordering too many.

Two strategies are used by the procurement agent to control procurement prices. The first strategy is to rank the offers by price and only select the two offers with lowest price to order instead of accepting all the offers returned from suppliers. However, in most cases long-term offers will be selected due to their price advantage compared to short-terms ones. This is undesirable because the shortage of short-term components leads to discontinuation of production. Therefore, short-term offers are given higher priority in the selection process. The second strategy used by UAM-TAC is to limit the component price within a profitable range. Therefore, if the offer price for a component i is above ρ_i^*, the procurement agent will simply reject the offer. The way of calculating ρ_i^* will be presented in Section 5.

4.2 An On-demand Production Strategy

On a typical day, the production agent determines which types of computers and how many of them to assemble based on the availability of the components and market demand. The ways of organizing manufacturing falls into three categories: build-to-order, order-to-build [3, 4] and mixed strategies. Build-to-Order strategy provides a straightforward approach to fulfill orders from customers by building products upon receipt of spontaneous orders. A typical build-to-order approach involves little (if any) forecasts, inventory, or purchasing delays. Therefore, this strategy incurs little inventory costs and can provide just-in-time production for a variety of product lines, thereby achieving good customization. However, in TAC/SCM scenarios, the ever-changing component market and unpredictable component price often make it hard for agents to determine which orders will be profitable. This strategy also limits agents from fulfilling orders with close due date due to the difficulty of scheduling production.

This paper takes an on-demand production management strategy. The production is planned based on the inventory level of computers, instead of the outstanding orders. Particularly, in each simulation day, our agent makes its production decision following an iterative procedure. At the beginning of the procedure, it retrieves the current inventory information about the products and components. Then in each iteration, it tries to produce a batch of 5 units for the product that has the lowest inventory in the current iteration. Since no production can be carried on without sufficient components, the number of units can be produced is subject to the available components. If there are not enough components, our agent will produce as many units as possible with the given component inventory and move on to the product with the second lowest inventory. It continues the iteration until it either runs out of available production cycles or there are no components to produce one more unit of any product. This procedure is out of the following considerations. First, the production cycles are scarce resource. It's generally beneficial to use it as much as possible. Second, the RFQs for each product are statistically at similar amounts in each simulation day. It's reasonable to keep a balance among the inventories for different products. Ideally, our agent would decide to produce one unit of product in each iteration. But that would be too time-consuming given the fact that each simulation day only lasts 15 seconds. So our agent makes the decision about producing a batch in each iteration. A batch production generally can not achieve the same level of balance as the production of 1 unit at a time. If the batch is too large, it might even add unbalance among the inventories. Thus a small size of batch is preferred. With it, our agent can make the entire production plan more quickly with sacrificing much of the balance among the inventories of different products. A batch size of 5 units serves this purpose fairly well.

After putting our agent in the contests with other agents, we observe that when the market experiences a period of low customer demands, the inventory for the products can keep increasing to a high level.
Thousands of units for each product can stay in the inventory for a considerably long time. However, the capacity of the factory is relatively sufficient. It should be able to satisfy a large portion of the customer orders with a just-in-time production fashion given there are sufficient components available. It isn't beneficial to keep an excessive amount of inventory. Moreover, our agent would have to bear a good amount of inventory holding cost. To overcome this disadvantage, we put an upper limit of 600 units on the inventory of each product. Our agent stops to produce a product once its inventory exceeds 600 units. This limit helps to prevent the inventories from increasing to a high level and, on the other hand, provides some buffer to satisfy customer demands once the market starts to boom.

OnDemandProduction (m)
  availableTimeUnit ← *timeunit*
  notEnoughInventory ← *false*

```
WHILE availableTime > 0 and ifEnoughInventory
   do itemsOrderedByInventory ← orderItemsByInventory ();
         FOR item ← 0 to itemsOrderedByInventory.length
         do toProduce ← itemsOrderedByInventory[item]
                  IF ifEnoughCmptInventory (toProduce)
                  Then produceItem (toProduce)
                           notEnoughInventory ← false
                           break
```

The advantage of this algorithm is to always put the most-needed products to the highest priority. This way, although the production activities are not directly affected by the bids the bidding agent wins, the fact that only mostly-needed products are produced assures that the production activities will (indirectly) reflect the market demand.

4.3 The Inventory Agent

The Inventory agent is mainly a bookkeeper for the component and product inventories. It also keeps tracking the average component and product costs and average product sales prices.

The main purpose of the inventory module is to provide a book keeper over time for the components and products. We define an inventory threshold for every component as Q as defined in Section 5. This threshold is used as the expected demand per day for each component. The value of the threshold is decided by assuming a 100% utilization of the factory and the same number of units of each product to be produced each day. With this threshold, our agent can generate the projected demand for the components. For the orders our agent places to the supplies, our agent builds up an array as the projected supply for the components. The index of the array is the date along the time axis. The value of one element in the array represents the total number of components will be available from the current date to the date indicated by the index of that element. This array is updated daily after the observation of the realized demands for the components. This update eliminates the errors between the expected demands and the realized demands and possible errors between the expected supplies and the realized supplies. Whenever the inventories are affected by production, procurement or delivery, the routines in the inventory module are called to update the inventories accordingly.

The inventory module also provides information supporting procurement and sales decision. From the difference of the projected supply to the projected demand, our agent calculates the amount of components should be purchased to fulfill the projected demand before a specific date. It also calculates the combined total component inventory, which is the sum of the current on-hand component inventory plus the units of components in the product inventory. This information facilitates the procurement decision. To facilitate the sales decision, our agent calculates the net available product inventory, namely the current on-hand product inventory minus the outstanding customer orders. Also our agent keeps an average price for each component. Whenever there is a procurement, this average price is updated. It is used as one of the factors that decide the bidding price in the sales decision.

4.4 Delivery Agent

Delivery agent controls the product delivery schedules. It gets the information about available products from the inventory agents and the customer order information from the bidding agent. It gives priorities to the orders with earlier due dates. After it makes deliveries, it triggers the inventory agent to update the product inventory information.

Our agent follows a simple rule for delivery. In each simulation day, it tries to deliver the customer order with the earliest due date in the active customer order set until it either runs out of inventory or there is no active customer order to make a delivery. By delivering as many units as possible, the inventories can better reflect customer demands. Then through the production decision produces, more units are produced for the product with lower inventory. This helps to keep the balance among the inventories of different products. It makes sure that a large sale today doesn't affect the ability to satisfy customer demands tomorrow. There is another advantage of this rule. At the end of the game, our agent could deliver more customer orders with due date beyond the time horizon by delivering customer orders as early as possible.

4.5 The Bidding Agent and its dynamic pricing strategy

In each day, a bidding agent receives RFQs from customers, selects a subset of the RFQs to bid, computes the bidding price and participates in the auctions. There are two important decisions a bidding agent has to make in this process: the bidding set selection and the bidding price computation.

A simple bidding set selection algorithm is used in UAM-TAC in order to focus ourselves on the bidding price computation algorithm. Specifically, UAM-TAC ranks the RFQs it receives in a decreasing order by the difference between the reserve price and the cost. It then selects the first $PI*C$ RFQs to bid on, where PI is the current product inventory level and C is a constant. The pricing strategy of UAM-TAC is a feedback-based approach and will be described in details in the following sections.

In UAM-TAC, a *sales target* concept is introduced in the pricing model. A *sales target* for a particular product k on day d is noted as $ST_{k,d}$, indicating the number of items the bidding agent intends to sell. The *sales targets* are determined ahead of the auctions. The bidding price for product k, ρ_k will be derived from the next section.

5. PROJECTED DYNAMIC SYSTEM

If we consider all the game participants, from component suppliers, manufacturers, till customers at demand markets, we can have a full picture of the system. In this section, we first identify the multilevel network structure of the problem and the corresponding flows and prices. In such network, UAM-TAC will be a node in the middle level. We then describe the underlying functions and the behavior of the various network agents, i.e., the component suppliers, the manufacturers, and the consumers located at the demand markets. The perspective is an equilibrium one. Since in an environment of competition, suppliers and manufacturers seek to maximize the profits whereas the consumers determine the manufacturer where the product can be obtained at the minimal unit cost, an equilibrium state which provides a valuable benchmark in an environment of competition can be obtained.

Now, we depict the multilevel network system in a figure of which the logistical network is the bottom network, the financial network is the top network with flows of prices, and the informational network is the central network to store shipment and prices information (Fig. 2). Specifically, the logistical network represents the commodity production outputs and the shipments between the network agents, that is, between the suppliers and the manufacturers, and the manufacturers and the demand markets.

We consider a logistical network of m suppliers located in the top tier, with a typical supplier denoted by i, n manufacturers located at the middle tier, with a typical manufacturer denoted by j, and o demand markets located at the bottom tier, with a typical demand market denoted by k. UAM-TAC is one node among the n manufacturers.

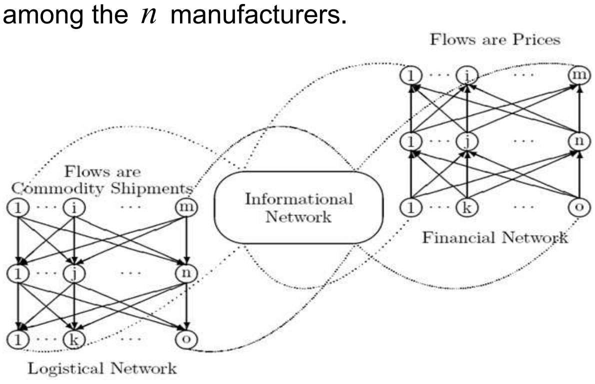

FIGURE 2: MULTILEVEL NETWORK STRUCTURE OF THE SUPPLY CHAIN SYSTEM

Let q_{ij}^1 denote the nonnegative volume of commodity shipments between supplier i and manufacturer j and let q_{jk}^2 denote the volume between manufacturer j and consumers at demand market k. I group the q_{ij}^1 into the column vector $Q^1 \in R_+^{mn}$ and the q_{jk}^2 into the column vector $Q^2 \in R_+^{no}$. Let S^i denote the amount of the commodity produced by supplier i and group S^i into the column vector $S \in R_+^m$.

We now provide the notations of prices which are flows on the financial network. Let ρ_{ij}^1 denote the price of the commodity of supplier i associated with manufacturer j, and group the ρ_{ij}^1 s of supplier i into the column vector $\rho_i^1 \in R_+^n$. I then further group all the suppliers' prices into the column vector $\rho^1 \in R_+^{mn}$. We denote the price charged by manufacturer j, located at tier 2, by ρ_j^2 and then group the manufacturers' prices into the vector $\rho^2 \in R_+^n$. Finally, let ρ_k^3 denote the true price of the commodity as perceived by consumers located at demand market k at the third tier of nodes and we group ρ_k^3 s into the column vector $\rho^3 \in R_+^o$. From [15], the vector $X^* = (Q^{1*}, Q^{2*}, \rho^{1*}, \rho^{2*})$ satisfying the equilibrium conditions will satisfy the variational inequality form:

$$\sum_{i=1}^{m}\sum_{j=1}^{n}\left[\frac{\partial f_i(Q^{1*})}{\partial q_{ij}^1}+\frac{\partial c_{ij}(q_{ij}^{1*})}{\partial q_{ij}^1}+\frac{\partial c_j(Q^{1*})}{\partial q_{ij}^1}-\rho_j^{2*}\right]\times\left[q_{ij}^1-q_{ij}^{1*}\right]$$
$$+\sum_{j=1}^{n}\sum_{k=1}^{o}\left[\rho_j^{2*}+c_{jk}\left(Q^{2*}\right)-\rho_k^{3*}\right]\times\left[q_{jk}^2-q_{jk}^{2*}\right]$$
$$+\sum_{j=1}^{n}\left[\sum_{i=1}^{m}q_{ij}^{1*}-\sum_{k=1}^{o}q_{jk}^{2*}\right]\times\left[\rho_j^2-\rho_j^{2*}\right]$$
$$+\sum_{k=1}^{o}\left[\sum_{j=1}^{n}q_{jk}^{2*}-d_k\left(\rho^{3*}\right)\right]\times\left[\rho_k^3-\rho_k^{3*}\right]\geq 0,$$
$$\forall\left(Q^1, Q^2, \rho^1, \rho^2\right)\in R_+^{mn+no+n+o}. \qquad (2)$$

where we identify an equilibrium point with a "*", d_k is a demand function which can depend, in general, upon the entire vector of prices ρ^3, c_{jk} is the unit transaction cost of the manufacturers j associated with consumers at demand market k, f_i is a production cost function faced by each supplier i, c_{ij} is the transaction cost between each supplier and manufacturer pair, and c_j is *handling* cost faced by a manufacturer j.

6. EXPERIMENTAL RESULTS AND ANALYSIS

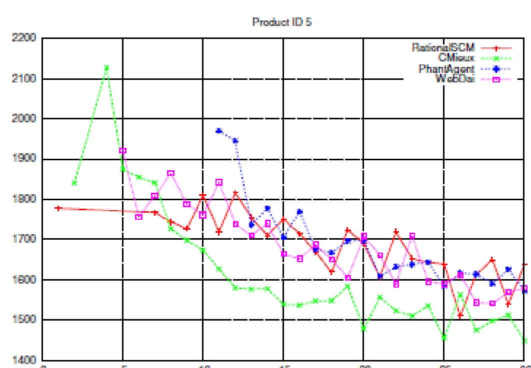

FIGURE 3: PERFORMANCE AT THE BEGINNING OF THE SELECTED GAME

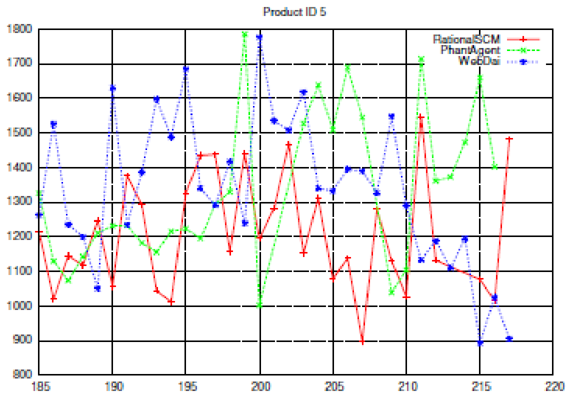

FIGURE 4: PERFORMANCE AT THE END OF THE GAME

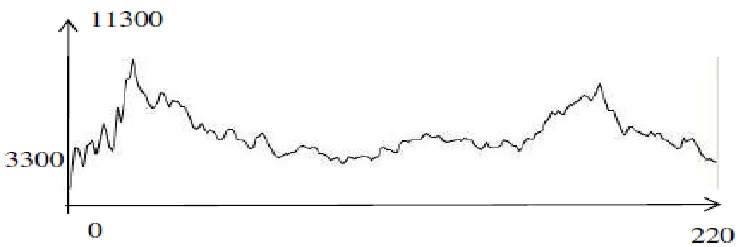

FIGURE 5: COMPONENT INVENTORY LEVEL

In this section, we analyze UAM-TAC's experimental performance with teams that have published their binary programs SCM. UAM-TAC demonstrated considerable resilience and robustness to the changing market situation. It adapted reasonably well to the customers' demand and the variability of the component market. We ran several trial games and it appeared that the results have been quite consistent. Figs. 3 and 4 depict the beginning and the end of the game for a typical game selected from the game trials. The least time from the beginning of the game to the first day the products can be produced is 3 days because of the necessary negotiation time between the agent and the suppliers. Since UAM-TAC decides the quantity of customer RFQs to bid based on available product inventories, it's hard for it to offer products for sale at the beginning of the games. However, UAM-TAC keeps a relatively constant flow of components and products, thereby making it maintain sufficient inventory at the end of the games. Combining this fact with UAM-TAC's delivery strategy to deliver customer orders as early as possible, UAM-TAC generally fills more customer orders than other agents when the game approaches its end. Fig. 5 shows the typical component and product inventory level over time in the selected game. As shown in Fig. 5, UAM-TAC keeps a relatively constant component inventory level with the variant-horizon based procurement strategy except the beginning and the end of the game.

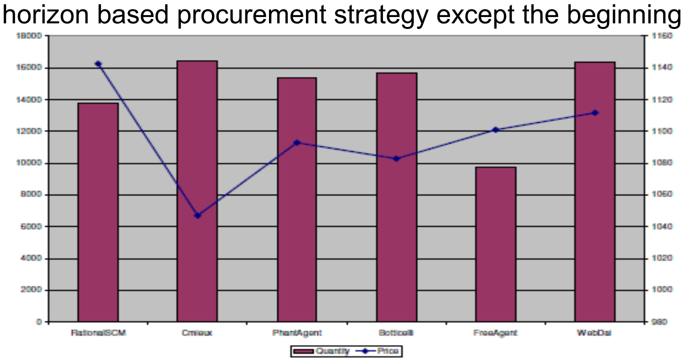

FIGURE 6: AVERAGE COMPONENT I PRICE AND QUANTITY

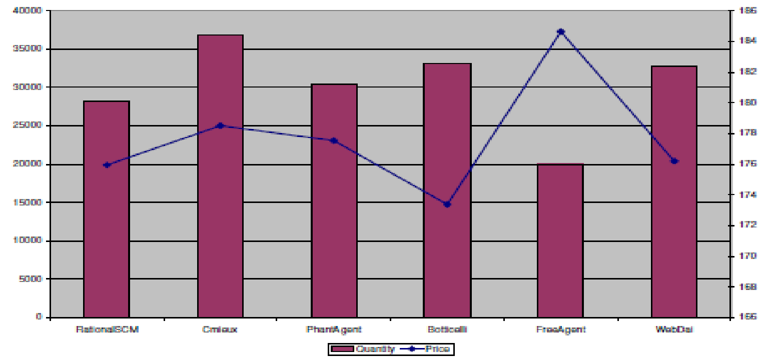

FIGURE 7: AVERAGE COMPONENT II PRICE AND QUANTITY

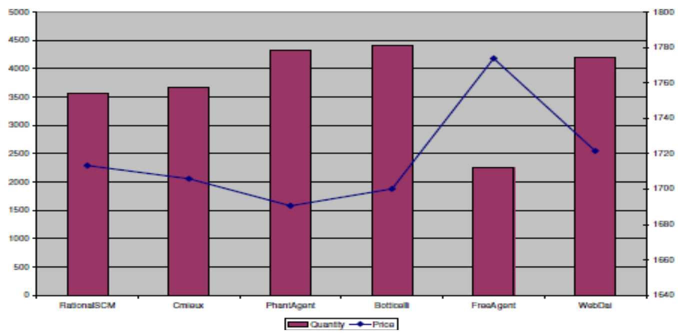

FIGURE 8: THE AVERAGE SALE PRICE AND QUANTITY FOR COMPONENT I

Figs. 6 and 7 illustrate the typical average component procurement price and quantity for each participant and Fig. 8 the typical average product sales price and quantity. As in Fig. 3, FreeAgent orders much less components than other participants at a relatively higher price. By selling the product at a higher price, FreeAgent increases its p_t of each product unit sold. But under the competition of other participants its market share shrinks considerably. However, UAM-TAC tries to sustain a certain amount of market share with its bidding strategy. Thus it sells more products at a lower price. This demonstrates that the simulation reality makes UAM-TAC's method more favorable.

7. CONCLUSIONS

This paper describes the design of UAM-TAC, a multi-agent based supply-chain system that will compete in TAC SCM (Trading Agent Competition Supply Chain Management) 2007. UAM-TAC consists of a procurement agent, an inventory agent, a production agent, a bidding agent and a delivery agent. Through the interactions among these agents, UAM-TAC established a hybrid push-pull model to control the supply chain system based on the equilibrium solutions of the supply chain system in which UAM-TAC is a node. The experimental game performance demonstrates that UAM-TAC is very responsive to the market price fluctuations and capacity variability. This is attribute to the observations that adjust its plan based on the feedback from the market quickly and they jointly control the component costs and selling price at a reasonable level.

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STUDENT PERCEPTIONS OF COMMUNITY-ENGAGED PARTICIPATORY LEARNING PROJECTS IN BUSINESS CLASSES

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ABSTRACT

This research presents undergraduate business students' perceptions about the benefits of community-engaged participatory learning (CEPL) projects. The authors' state-assisted, mid-sized, mid-western university is highly regarded for its community engagement activities, which include CEPL projects conducted as components of business courses. It was among only thirty public universities in the United States recognized with the prestigious Carnegie Advancement of Teaching Classification for Community Engagement in 2006. The University is also atypical in that almost two-thirds of its students are first generation college attendees, and its students work an average of three days per week. This research gauges the perceptions of this unusual student cohort about learning and developmental outcomes from CEPL projects in business courses, including Market Research, Promotions Management, Operations Management, and Management Information Systems. The four business professors reporting their findings here employed CEPL projects as significant components of their courses during a recent academic year. Across their business disciplines, the faculty members recognize that the four primary benefits of CEPL projects include contributing to students' understanding theoretical concepts, realizing civic responsibility, sensing personal growth, and developing professional perspectives. This research measures business students' perceptions of their achievement of these outcomes through surveys administered at the end of each course. Each of the authors also describes an exemplar course included in the survey and specifies how it produced one of the beneficial outcomes. Generally, the students perceive that CEPL projects are an integral part of learning and service, and an important tool in understanding how concepts apply in the working world. Although there is considerably more work required by business professors to incorporate CEPL projects into coursework, students report favorable outcomes due to such projects.

***Keywords**: Business Education, Community Engaged Participatory Learning*

1. COMMUNITY ENGAGED PARTICIPATORY LEARNING LITERATURE

Community-engaged participatory learning (CEPL) projects combine theoretical knowledge, with personal experience, and community needs to support learning and community development (Minkler and Wallerstein, 2008). Service learning, volunteerism, and live class projects are forms of CEPL. The CEPL learning model works to integrate the various facets of experiential learning (Furco, 1996; Mooney and Edwards, 2001; Schumer, 1994). The conceptualization of experiential learning may be traced to Kolb's (1984) Experiential Learning Theory wherein learning results from a process of concrete experience, reflective observation, abstract conceptualization, and active experimentation. CEPL enables learning from not only listening and observing, but also from thinking and feeling, which is mandatory in physically and psychologically "doing" within the new environment.

Students are expected to realize four learning outcomes from CEPL projects, specifically, developing professional perspectives, sensing personal growth, understanding theoretical concepts, and realizing civic responsibility (Munter, et al., 2009). This type of learning is not without risks, however. For example, control over project goals and activities needs to be negotiated and managed with the community partners, and learning itself shifts from a professor-student model to one in which the community partner has an active involvement (Holland and Gelmon, 1998).

2. COMMUNITY ENGAGED PARTICIPATORY LEARNING AT THE UNIVERSITY

The University has dedicated substantial resources to support CEPL in order to provide meaningful community experiences for its students and provide useful deliverables for its community partners. The University is bound to its region in that its enrolment of over 5,000 is primarily drawn from two local counties, over 80% of students commute to campus, and over half of recent graduates remain in the area. The University also has a somewhat unique student body in that almost two-thirds are first generation college attendees, and over 20% are students of color. The University sustains its commitment to community engagement and supports a strong tradition of CEPL. The Center for Community Partnerships (CCP) is the University's established hub of CEPL support. The CCP was formed in 1997 with support from a U.S. Department of Housing and Urban Development *Community Outreach Partnership Center* grant and has been sustained thereafter by program revenues and support from the University and local stakeholders. The University was recognized in 2006 as one of only thirty public post-secondary institutions in the United States to achieve the Carnegie Foundation for the Advancement of Teaching classification of "Community Engagement" in both categories of "Outreach and Partnerships" and "Curricular Engagement." However, our University is atypical among its Carnegie peers in the local demographic composition of its student body. The CCP views their partnerships with a variety of stakeholders as central to community-engaged learning, research and community development. In a recent year, 54% of the CEPL projects were performed for nonprofits, 16% for government agencies, 18% for smaller businesses, and 12% for larger businesses. Successful client organizations benefit the community and contribute to economic growth, and are, therefore, a desirable ingredient for community sustainability.

The Ralph Jaeschke Solutions for Economic Growth (SEG) Center works with the CCP to support CEPL projects conducted as part of business courses. The SEG Center, established by the School of Business & Technology in Fall 2005, works closely with the University's CCP to match clients to resources, track project progress, and report on project results. In 2008, the CCP and SEG Center began sharing a common database to support the tracking and reporting functions necessary to facilitate research on CEPL. Business CEPL projects are conducted under the auspices of the SEG Center, and employ a project management methodology that facilitates the successful completion of projects, provides practical experience with project management concepts, and archives client deliverables and project records.The University's Department of Business is accredited by the AACSB and serves over 700 undergraduate and MBA students. The twenty business faculty members embrace the teacher-scholar model appropriate to an accredited teaching-research-service program. Over 240 Business students engage in about sixty SEG projects each academic year, and are supervised by as many as eight Business faculty members. The SEG Center lab is one of the key physical resources of the Department, established as an ideal work environment for student project teams.

This research gauges student perceptions about the outcomes of CEPL projects conducted as part of business courses, including four undergraduate offerings (Market Research, Promotions Management, Operations Management, and Management Information Systems) during a recent academic year. The student perceptions of CEPL benefits are measured by CCP surveys administered near the end of each course.

3. ASSESSING STUDENT PERCEPTIONS OF COMMUNITY-ENGAGED PARTICIPATORY LEARNING OUTCOMES

Our students' frequently express their concerns to our faculty about the time involved in client interaction and preparation of deliverables for CEPL projects. Our typical Business student works part time, about three days per week, and studies full time, taking almost 15 credit hours. The faculty recognizes that any out-of-class time demands placed on students for CEPL projects in business courses must be offset by students' perceptions of recognizable gains in four key benefits: developing professional perspectives, sensing personal growth, understanding theoretical concepts, and realizing civic responsibility (Munter, et al., 2009). In a recent academic year, the business students of the University, responding on post-project surveys (n=161), tended to agree with statements that CEPL projects produced all four benefits

Business students showed moderate agreement, with some variance, with three statements that CEPL projects help in developing professional perspectives, generally expressed as working directly with clients (1.89 on a 1 to 4 scale, with 1 being "strongly agree" and 4 being "strongly disagree"), clarifying career paths (2.44), and gaining professional contacts (2.55). Business students also agreed with three statements that CEPL projects help in sensing personal growth, specifically, enhancing ability to communicate (2.03), gaining awareness of personal strengths and weaknesses (2.06), and developing problem solving skills (2.09). The students more clearly agreed with three statements about CEPL projects helping in understanding theoretical concepts, specifically, helping to understand the subject matter (1.82), and helping to understand course lectures and readings (1.94), and they agreed that CEPL should be part of more courses (1.89). These findings indicate to the business faculty that CEPL projects have a proper role in the teaching theoretical concepts, especially in courses in which such projects are relevant to the subject matter. The Business students also generally agreed with five statements that CEPL projects help in realizing civic responsibility, specifically, seeing the importance of community involvement (1.84), stating that the project benefited the community (1.88), seeing how they can contribute to the community (2.01), intending to volunteer in the community after college (2.04), and helping to discuss community issues (2.16). The level of student agreement with the community engagement statements may reflect also the fact that Business students are receptive to the applicability of Business concepts both for-profit and not-for-profit environments.

4. EXEMPLAR BUSINESS COURSES INCLUDING COMMUNITY-ENGAGED PARTICIPATORY LEARNING

While student responses on the CCP surveys conducted at the end of each Business course are clearly indicative of the benefits of CEPL projects, four business professors were asked to describe four of the surveyed courses and to provide other supporting evidence, including student feedback, of project effectiveness. Their four exemplar undergraduate courses include Market Research, Promotions Management, Operations Management, and Management Information Systems. Each professor's description of their exemplar course and the specific benefits derived follows.

4.1. Market Research Course: Developing Professional Perspectives

The current professor has supervised twenty-nine CEPL Market Research projects for external clients over the past four years. The course is offered once per year and is required for students pursuing a Marketing concentration, although other Business majors often take it as an elective. The client demand for Market Research engagements typically exceeds the availability of student teams to perform projects. The professor selects optimal projects based on four general criterion: 1) Suitability of scope for a three-credit course, 2) Clearly articulated marketing issue or problem, 3) Degree of access to primary and secondary research sources necessary to address the issue or problem, and 4) Timeliness of research and client schedules relative to the course schedule. The professor also considers the potential learning value to students and the potential positive impact of research for the client organization. Student teams of four are self-selected to a degree. As the instructor is familiar with the work and capabilities of students in the class, he often intervenes in the formation process to ensure teams are of equal capability and students are well matched.

Students develop a comprehensive client agreement, which clearly specifies management and research objectives, methodologies, timelines, deliverables, client and team commitments and related requirements regarding data ownership, usage, and confidentiality. Teams use a variety of research methods to collect data under the supervision of the professor, including web surveys, in depth interviews, focus groups and various projective techniques. Data is analyzed in depth using current versions of SPSS® software, and client reports follow a strict rubric. The CEPL Market Research projects assist the students in developing the professional perspectives of working world clients and the situations they face. Student teams have undertaken projects that are both local and national in scope. For example, a Texas-based client commissioned a student team to conduct survey research of seniors enrolled in college sales programs at four-year colleges to inform the launch of a national website intended to match national employers with candidates available from collegiate ranks for entry-level sales positions. Two recent student market research studies have informed new product ideas, both of which were patent pending and both of which the client intended to launch nationally or globally. In one case, the client informed the professor that the research was pivotal in gaining a nation-wide trial for the new product with a prominent national retailer. The research and academic community have also utilized student marketing research from the class. A California-based research house considered a unique study of the efficacy of an eMentoring program at a local public school to be an important element of an NSF grant proposal.

Student perceptions of the course in terms of learning outcomes have also been highly positive. The course and Professor evaluations of the past three course sections average 4.8 on a 5.0 scale across a 12-item scale and qualitative comments often cited the value in the projects in developing marketable career skills.

4.2. Promotions Management Course: Sensing Personal Growth

This marketing and strategy professor has supervised over sixty Promotions Management projects for clients over the past ten years. The course is offered once per year, is required of Marketing students, and is often taken by other Business majors as an elective. The Promotions Management course typically enrolls 24 to 32 students and has capacity for 6 to 8 client projects per semester. The students work in assigned, largely autonomous teams of three to five. Students are highly motivated to engage in the project as the CEPL component of the course varies from 25 to 33% of the total basis for the grade. Student evaluations of teacher effectiveness over the years in which this Professor has taught Promotions Management with a CEPL component average 4.8 on a 5.0 scale.

As with other Business course projects, client intake occurs through ongoing interaction between the SEG Center and the CCP and their community partners. The SEG Center Director receives many inquiries from CCP and the community and directs them to the professor for consideration as a course-based SEG project. The professor evaluates the potential learning value of the project for students as it relates to course objectives, and the potential positive impact of a structured promotions management plan for the client organization. Selected projects are conducted under the auspices of the SEG Center, and are initiated with formal project charters and project plans, which are archived with all client deliverables by the SEG Director. The Director publicizes past completed Promotions Management courses to SEG Center tour visitors and to prospective new clients.

One successful project earned the Promotions Management professor the Annual Community-Based Teaching Award in 2009. One student team leader, in nominating the faculty member, said: “The community-based projects were such a wonderful learning opportunity—and I can truthfully say that I walked away feeling more knowledgeable and accomplished from both projects that I worked on… I am so grateful that CEPL was part of this class...” This student demonstrated personal growth, having gained greater confidence and poise, graduating with honors, and taking a responsible sales job with a regional company.

A team of four students from a nearby private college, in taking the Promotions Management course on their own Marketing professor’s recommendation, conducted a CEPL project for a mid-sized, privately owned company. One student team member in a confidential course evaluation, commented on the professor and the CEPL projects: “He is a great professor, person, and mentor...I go to another college but took his class at this University. It was the best class I have taken in my college career. It was a great idea to encourage learning the material in a real world setting…it made an impact on my life.” The CEPL projects in the Promotions Management course seem to be having a positive effect on the students’ sensing personal growth.

4.3. Operations Management Course: Understanding Theoretical Concepts

This Professor has supervised over one hundred CEPL projects engaging 430 students during a three and a half-year period. The Operations Management course is offered in the Spring and Fall semesters, with two sections in each semester. Classes vary in size between 30 and 50 students. The projects last over the 16-week semester, and represent 15% to 20% of the overall course grade. Most projects are selected by students based on criteria distributed with the course syllabus, with relevance to course material being the primary requirement. Some projects originate through CCP and others through the professor’s network. Clients include small and large organizations, local and national firms, manufacturing and service operations, and businesses and non-profits. All parties for the projects sourced through the

CCP sign a project charter. Projects are performed under the auspices of the SEG Center, which provides a lab with computer and printing facilities. By the mid-point of the semester, students submit a paragraph summarizing their plans for the project. Students use three to four class periods to work exclusively on the project. Student groups meet outside the class to visit their clients. The final deliverable is a project report and PowerPoint presentation in the last week of class. The evaluations for this Professor particularly on overall effectiveness have consistently been above four on a five-point scale, and close to or slightly above the department average. Feedback regarding the community projects has always been positive with some projects that have exceeded all expectations.

A classic example of students gaining and demonstrating a greater understanding of theoretical concepts was a successful project, which was performed by a group of four students, for a million dollar non-profit agency. The agency provides programs and services for low-income groups. Students studied inventory management practices at the organization, suggesting methods for improving their processes, which the client promptly incorporated. During the same semester, the students submitted a successful proposal to present their project work at the National Conference on Undergraduate Research. The students received positive feedback at the conference, and an undergraduate journal invited the group to submit their work for consideration. With the Professor's guidance, the group developed a high quality paper, which was published by the journal after a peer review process. Clearly, this CEPL project produced three benefits: 1. Students applied course theoretical concepts to a real world project; 2. The client organization improved their inventory operations; and 3. the University gained visibility through student presentations at a national conference and publication in a scholarly journal. The student team observed, in their course evaluations that this learning opportunity resulted directly from the CEPL project in Operations Management.

Another recent project involved the development of a plan for another local non-profit organization to improve services. The organization immediately incorporated the team's suggestions, and testified to the sharp acumen of the students and the pleasure of working with them. The leader of the student team, in his course evaluation, wrote "I consider my experience with the…project to be invaluable because it allowed me to discover an aptitude for finding and resolving operations issues. The client not only implemented all of the suggestions the group made, but took the time to thank me as the team leader, all of the members of my team, the Professor and the Dean for all of our hard work." He also stated that had the Professor "not required his students to participate in this project, I would not have had the opportunity to discover my talent." The client wrote of the same project, "We would like to express our appreciation and satisfaction with the student project. We were very pleased with the recommendations provided by the team, and we were thrilled with the time and effort they put into their presentation. We would definitely participate in this type of student project again." Clearly, these students also gained an understanding of theoretical concepts and demonstrated their ability to apply it to the real world.

4.4 Management Information Systems Course: Realizing Civic Responsibility

Professors in the undergraduate Management Information Systems (MIS) major have used CEPL projects for thirteen years. An advisory board, consisting of MIS professionals and founded in 1998, provides advice to MIS students and faculty working on community projects. These projects include database development, web application development, security audits, network designs, and requirements analysis. In a typical year, the professor supervises four to eight community projects. Collaboration between MIS and Computer Science departments is important to the success of these projects. Faculty members in MIS and Computer Sciences learn of project needs and trade project requests to fit their students' backgrounds, course learning objectives, and the timing constraints of the prospective clients.

Two MIS courses conducted over an academic year, included an exemplar project, which helped the MIS students understand database design, requirements analysis, and system implement. The students also developed an appreciation for the work of nonprofit organizations and their funding. . This project was performed for a local non-profit organization that assists low-income students through scholarships, mentorship, and tutoring. The project began during a recent Fall term database management system course in which juniors designed a database application to track donations, partners, clients, and mentors. All of the students in this database management class worked in teams tasked with developing alternative prototypes for the community partner. During the following Spring semester, in a systems analysis and design class, one of the teams added a few students, and continued the project. The client organization is delighted with the database and software design, and the students came to appreciate the value they can deliver to their community.

CEPL projects in MIS classes move students beyond the definite solution of a computer algorithm into a "messy" environment where requirements are more difficult to determine and solutions do not have one right answer. Students learn to work with the community partner to develop the "best" solution given time and resource constraints. The difficulty with MIS projects is that the community partner frequently expects a working deliverable that must be maintained over time on a limited budget. While student teamwork, presentation, and project management skills are significantly enhanced through CEPL projects, the students also realize their ability to affect their communities by bringing those skills to bear on worthy causes.

5. DISCUSSION AND RECOMMENDATIONS FOR PRACTICE

Though students' may express their concerns to faculty about the amount of time involved in client interaction and preparation of deliverables for CEPL projects, the four business professors have provided survey and other evidence that the demands on students' time are offset by recognizable gains in a combination of students' benefits. The benefits include developing professional perspectives, sensing personal growth, understanding theoretical concepts, and realizing civic responsibility. Student responses on CCP surveys conducted during a recent academic year are indicative of the perceived benefits from CEPL projects in Business courses. Four Business courses (Market Research, Promotions Management, Operations Management, and Management Information Systems) provide additional support that students do realize these specific benefits through CEPL projects. The four business professors also provide their suggestions for practice.

One might expect Business students, often characterized as more concerned with their professional development than are their liberal arts counterparts, to justify their time spent on CEPL projects by the value of developing professional perspectives, more so than by the other expected benefits. However, Business students, a bit surprisingly, showed wider variance in their responses to three statements that CEPL projects help in developing professional perspectives. Business students agreed with the value of direct contact with clients (1.89, 2 = Agree), but were more neutral about whether CEPL projects help to clarify career paths (2.44, 2.5 = Neutral) or produce professional contacts (2.55). The students' expressed neutrality about two of the three statements on professional perspective development may reflect the fact that more than half of CCP projects were performed for non-profit organizations, which generally offer less financially rewarding professional careers. However, the business professors believe that the CEPL projects lead students to developing broader professional perspectives. The Market Research course demonstrates that there is strong demand for research skills, from a broad range of diverse clients, locally to nationally, small to large, for-profit to not-for-profit. The variety of clients experienced in the course adds to students' professional networks and comfort in working with professionals.

The business students expressed consistent agreement that CEPL projects contribute to their sense of personal growth. The four business professors also believe that CEPL projects do provide students with a sense of personal growth. Students agree that they gain awareness of personal strengths and weaknesses (2.06). One Promotions Management student leader testified that, in her project, she had experienced "a wonderful learning opportunity—and I can truthfully say that I walked away feeling more knowledgeable and accomplished." This course professor also holds that one important tenet of CEPL project practice is to encourage students to take on as much of the personal responsibility for their projects as they possibly can handle. The result is that students have the greatest sense of personal accomplishment as a result of their efforts. Students also agree that the projects enhance their ability to communicate (2.03). All four Business Professors emphasize written communications skills in report writing, and oral presentation skills in classroom and client on-site presentations. Students also agree that they develop problem-solving skills (2.09) through CEPL projects. All four Business Professors emphasize independent critical thinking and objective problem solving in project assignments.

The student survey does not address other areas of personal growth, such as teamwork dynamics, interpersonal skill development, and acceptance of diversity. One Professor finds that it is best to assign teams and ask them to elect their own team leaders. From that point, autonomous student teams are best left to resolve their own inevitable conflicts and to be judged by peer teams for their relative performance, rather than against pre-established rubrics. This internal and external peer pressure on individuals and individuals to perform elevates the level of team dynamics and the importance of interpersonal skills. Business students, who are generally competitive by nature, rise to their best performances when challenged, and, therefore, have the greatest sense of personal growth. Another professor, in dealing with team dynamics, had previously encouraged students to form their own project teams of four to five students. As could be expected, he found that students elected to work with others whom they knew through previous classes or work. This professor now assigns teams in order to encourage diversity within each group and understanding team dynamics as a learning objective. Students have viewed this approach positively, with one student commenting that he “otherwise would probably not have worked with students of other backgrounds.”

The professors found that business students clearly recognize the educational benefits of CEPL projects in helping them to understand theoretical concepts, and agreed that CEPL projects should become part of more courses (1.89). Students agree that CEPL projects help to understand course lectures and readings (1.94). The Operations Management students demonstrated their capacity for undergraduate scholarship by understanding and applying theoretical concepts to their local non-profit client, and publishing a peer-reviewed paper as an outcome of their CEPL project. Students clearly agree that CEPL projects help to understand the course subject matter (1.82). One student team leader commented that the CEPL project also provided the Promotions Management professor the opportunity to share directly with students his “professional marketing and business ideas and experiences.” These findings indicate to the faculty that CEPL projects have a proper role in the process of business education, especially in courses in which such projects are relevant to the theoretical subject matter. However, as Holland and Gelmon (1998) warn, there are risks in changing the learning model from the traditional teacher-student focus to one that includes the community client. One of the Market Research professor’s key learnings about conducting CEPL projects in his course is that ongoing direction and mentorship is essential to maintaining an appropriate balance between client outcome objectives and classroom learning objectives. Managing this has proven to be the most challenging aspect of CEPL projects for this professor.

The students generally agreed with five statements about realizing civic responsibilities. The business professors find support that students who engage in CEPL projects realize civic responsibilities. Students saw the importance of community involvement (1.84), and one professor found that not only do our students affect their communities, but also the communities affect our students. Students stated that the project benefited the community (1.88) and saw how they can contribute to the community (2.01), and intended to volunteer in the community after college (2.04). MIS students learned over two semester-long projects how to develop the definite solution of a “best” computer algorithm for a charitable organization, and then grew professionally by conducting systems analysis and design in the “messy” real world of the community partner. The level of student agreement with civic responsibility statements may reflect the fact that students are receptive to the applicability of business concepts in not-for-profit environments that they may experience in school and after graduation.

6. POTENTIAL CONCERNS ABOUT CEPL

The four business professors generally consider “time” as the essential bottleneck for successful completion of projects, however, “logistics” also can be an issue. Professors must determine the method of selection of suitable clients, the appropriate number of class hours to set aside for projects, and the delivery modes for final projects. The University’s CEPL project infrastructure, particularly the CCP and the SEG Center, enables the four business professors with computer labs and project management tools. However, other Universities may lack this investment in infrastructure and leave their professors with greater initial hurdles to overcome. Because the four professors rely on the CCP network of community partners and their own community contacts, they have not been confronted with safety issues. However, they recognize that safety could be an issue in some communities, advise that it should be an important consideration in project selection, and suggest that sufficient safeguards should be put in place to address such concerns.

7. POTENTIAL APPLICATION TO OTHER FIELDS

While this research reports only on business courses, the four professors believe that CEPL can be effectively practiced in other disciplines, as those already exist in our community. This could be a challenge for some liberal arts courses; however, sufficient literature exists to suggest the feasibility, numerous prospective not-for-profit clients exist in the creative arts, and sufficient alternative project models are available for adoption.(Mooney and Edwards. 2001: Holland and Gelmon, 1998)

8. CONCLUSION AND FUTURE RESEARCH

The four professors engaged in this research conclude that CEPL Projects are an integral part of the learning process for students in the Business disciplines. Students gain in professional development, personal growth, educational achievement, and community engagement. Students in Market Research, Promotions Management, Operations Management, and Management Information Systems courses benefited from greater exposure to real world projects, understanding real business problems, and engaging the community with tools learned in the classroom. Besides the intended benefits of translating theoretical concepts into issues faced by businesses, students had the "working world" experience of producing project deliverables, such as written reports and client presentations on agreed-to schedules. Students improved in "soft skills" like managing group dynamics, embracing cultural and gender differences, and resolving conflicting work, family, and school schedules. Many undergraduate students place their CEPL project experience on their resumes as one of their first professional experiences.

The Carnegie Foundation (Shulman, 2005) believes that professional education is about developing pedagogies to link ideas, practices, and values under conditions of inherent uncertainty that necessitate not only judgment in order to act, but also cognizance of the consequences of one's action. In the presence of uncertainty, one is obligated to learn from experience. In many cases, these CEPL projects were the first instance where students faced the ambiguity and uncertainty inherent in applying ideas presented in the classroom to solve working world problems, an important first step in their life long journey as business professionals. In fact, some students actually succeed by taking an internship during school or a full-time position after graduation with their CEPL client. All of these consequences are important outcomes of a complete business education. The results presented in this article are clearly only a first step toward a future for CEPL projects.

Future research should include direct measurements of learning outcomes in addition to student perceptions. Research should also focus on ways to improve learning outcomes and on means to support faculty engaged in CEPL. Our experience, however, provides evidence that incorporating CEPL projects into Business courses helps prepare students for the business world.

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CUSTOMER ORIENTATION AND BUSINESS PERFORMANCE IN COMMUNITY BANKS: A FIVE-YEAR COMPARISON

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1. INTRODUCTION

These are interesting days for bankers and their banks. Customers are demanding ever more at lesser cost. Competition is coming from all points on the financial services compass. Shareholders are seeking increased returns on their investment in bank equities. In addition, the financial regulators are demanding that capital be increased thus putting pressure to increase earnings. Additionally, consolidation is at a rapid pace either through their own direction or at the discretion of the Federal and State regulatory authorities. It is into this fray that the authors of this article journeyed to determine at what point customer orientation and being influenced by competitors detracted from the ability of a bank to maximize its profitability, as measured by Return on Assets, and thus meet the requirements and demands of the shareholders and the financial regulators.

Prior to 2006, studies have shown an inconsistent relationship between market orientation and enhanced business performance. Numerous researchers have addressed this issue with mixed results. (Kohli & Jaworski, (1990, 1993); Narver & Slater, (1990, 1994); Desphande et al., 1993; Avlonitis & Gounaris, 1999, Chang & Chen, 1998; McNaughton et al., 2002) Some studies showed a slightly positive relationship between two of the three factors and levels of profitability, while other studies concluded there was no relationship. This has led the authors to conclude that perhaps there was a point of diminishing returns when it came to customer orientation and concerns over competitive factors. To the knowledge of the authors, no research has been conducted to investigate at what point, if any, there is a diminishing return on an investment in market orientation. In the attempt to better understand the relationships between the factors of a customer and competitive orientations and profitability, the authors conducted two studies of the community banking industry in 2006 and 2011.

2. RESEARCH

Purpose of the Study
The purpose of the 2011 study was to determine if, over the five year period since the 2006 study, the marketing orientation of community banks in relationship to their business performance had changed. The findings of the study will provide insight into current banking perceptions and provide an overview of those changes from 2006 to 2011.

Problem and its Background
For the purposes of this study market orientation is defined by Narver and Slater (1990). From an extensive review of the literature, Narver and Slater (1990 & 1994) inferred that there are three behavioral components and two decision criteria that comprise market orientation. The three behavioral components are customer orientation, competitor orientation and inter-functional discipline. The two decision criteria are long term focus and profitability. The authors define customer orientation as “the sufficient understanding of one’s target buyers to be able to create superior value for them continuously” (Narver & Slater, 1990, p. 21). Competitor orientation is defined as the “seller’s understanding of the short-term strengths and weaknesses and long-term capabilities and strategies of both the key current and key potential competitors” (Narver & Slater, 1990, p. 21). Inter-functional discipline is defined as “the coordinated utilization of company resources in creating superior value for target customers” (Narver & Slater, 1990, p. 22). This study examines the relationship between market orientation, its three behavioral components and enhanced business performance, as measured by return on assets in the community banking segment of the commercial banking industry.

The investigators looked at the three behavioral components of market orientation. These are: customer orientation, competitor orientation and inter-functional coordination. Based on these components of customer orientation four hypotheses were developed.

H1 There is a positive and significant relationship between market orientation and return on assets.
H2 There is a positive and significant relationship between customer orientation and the return on assets.
H3 There is a positive and significant relationship between competitor orientation and the return on assets.
H4 There is a positive and significant relationship between inter-functional coordination and return on assets.

Population
The surveyed population consisted of CEOs of community banks in several southeastern states. The homogeneity of the sample was a plus in reducing the impact of extraneous factors. Also, the time frame selected for the 2006, study precluded the current economic turmoil and was considered by the authors to be a period of normal economic activity. The 2011 time frame for the second study is in the midst of an economic downturn of severe proportions.

Community banks and savings associations in Florida, Georgia, Tennessee, North Carolina and Virginia comprised the study population in 2006. A total of 926 institutions were selected from the directories published by the various state bankers' associations. In 2011 Community banks and savings associations in Florida, Georgia, Tennessee, North Carolina, Virginia, and Alabama comprised the study population. A total of 695 institutions were selected from the 2010 directories published by the same state bankers associations. Below is a comparison of the number of banks surveyed in each state in 2006 and 2011.

Comparison of the Number of Community Banks by State 2006 and 2011

	2006	***2011***	***Returned Mail or No Longer in Business***	***Total***	***Percent Change from 2006 to Present***
Florida	246	167	-19	148	-40%
Ga.	408	243	-22	221	-46%
N.C.	92	79	-10	69	-25%
Tn.	181	139	-17	122	-33%
Va.	81	67	-9	58	-28%
Total by State	1008	695	-77	618	-39%

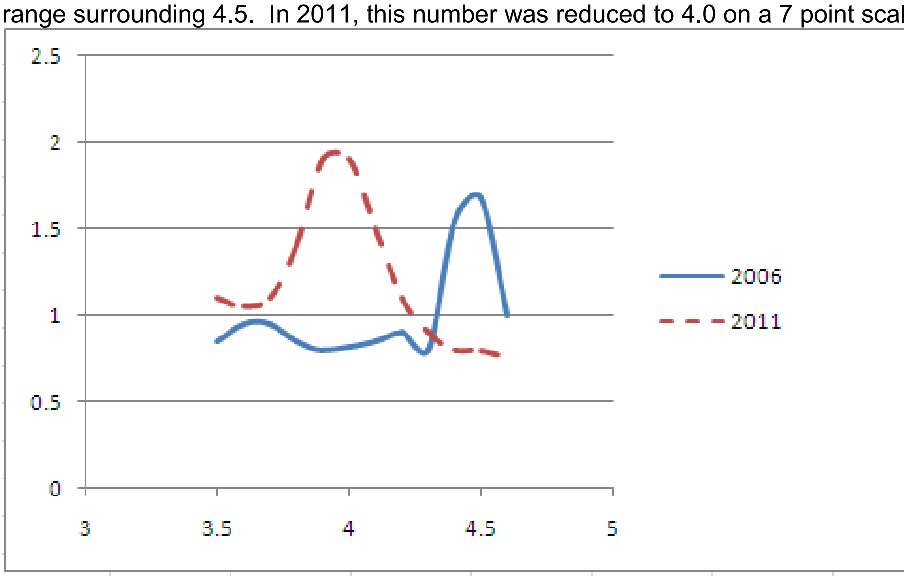
Questionnaire Design and Scaling
A self-administered modified twenty question Narver and Slater (1990) customer orientation survey instrument was utilized for the study. The questionnaire used a scale of 1 to 7, where 1 represented "not at all" and 7 represented "to an extreme extent". Additionally, interviewees were asked a matrix of open ended questions about their respective banks total assets, total capital, and profit after taxes for a three year period. These figures were obtained or derived from audited financial reports filed with each of the bank's appropriate governmental regulators.

A total of 926 survey questionnaires were sent in 2006 via US Postal Service first class mail with a cover letter and a stamped self-addressed return envelope. No compensation or inducement was offered to the survey participants. A total of 221 survey questionnaires were returned. Of the 221 questionnaires returned 40 lacked data and 19 were from banks that suffered financial losses during the time frame studied, which eliminated these questionnaires from the study. The remaining 162 usable questionnaires resulted in 17.5% response rate.

A total of 816 of the same survey questionnaires were sent in 2011 via US Postal Service first class mail with the same directions and self addressed return envelope. The same states were surveyed in 2006 and 2011. Alabama was added due to the diminishing number of community banks in the states previously surveyed. Eighty-eight surveys were returned due to no longer in business. A total of 116 usable surveys were returned. The response rate was 16.%.

Analysis

In 2006, descriptive statistics and other statistics were analyzed, which comprised several steps. Strong linear correlations were found between market orientation and return on assets in the scale range surrounding 4.5. In 2011, this number was reduced to 4.0 on a 7 point scale.



Customer orientation comparison 2006 to 2011

3. RESULTS

Customer Orientation

The 2006 results indicated that beyond a certain point, the additional investment in customer orientation yielded a negative return. This point, for the banks that participated in both the 2006 and 2011 studies was 4.5 on a 7 point scale, which equated to a “more than moderate (4.0)”, but “less than considerable (5.0)”   In summary, an investment beyond a "more than moderate level" yielded a negative return.

The 2011 study indicated the same basic results, however the level of customer orientation decline to 4.0 on the same 7 point scale. This decline in customer orientation during these stressful economic times could be the result of a number of factors.

Bank regulatory authorities are pressing banks to improve their capital ratios. This can be done in three ways. First, the bank can issue equity. However in this environment of reduced stock prices most banks, and their shareholders, have little desire to incur the dilution of earnings and ownership that this option affords.

Second, the bank can increase its retained earnings (i.e. its capital accounts), by generating more earnings via operational efficiencies and effectiveness. This can be accomplished by driving away those customers whose total banking relationships are either not profitable or are minimally profitable. This reduction in customer accounts to be serviced allows for a reduction in staffing levels, along with all other expenses associated with servicing those accounts that do not meet profitability standards.

And third, the reduction in customers means that their deposit accounts are moved to other financial institutions, thus reducing the degree of financial leverage, which is tantamount to improving the capital position of the bank in question.

The combination of the second and third points, thus reflect the findings of the 2006 study that showed beyond a certain point of customer service the business performance declines. Those banks that survive today, i.e. to participate in the 2011 study, are not only profitable, to some degree or another, but are also able to address the concerns regarding capital expressed by the bank regulatory authorities.

Competitor Orientation

The 2006 findings and the results of the 2011 survey show no positive relationship between competitor orientations and enhance business performance. This is possible because banks and bankers are more concerned with an internal orientation and less concerned with the external environment as it relates to competing banks. Anecdotally, on several of the returned Survey Instruments, the responding executive noted that there was limited concern about competitors as the bank in question was "trying to survive".

Inter-functional Discipline

As in the 2006 study, the 2011 study found no positive relationship between Inter-functional Discipline and enhance business performance. This consistency of the findings would seem to be even more evident as the internal Inter-functional capabilities of the bank would be stressed to an even great extent by two factors. The first factor would the staffing reductions noted earlier in the paper. The second factor is the distinct possibility that some of the banks included in the study population, may have absorbed "problem" banks at the request of the FDIC and other bank regulators. The combining of corporate cultures, software systems, human resource departments, etc would surely seem to have a negative impact upon Inter-functional Discipline within the bank.

4. CONCLUSION

It appears to the authors of this study that those banks who tended to control their customer orientation in the 2006 time frame, were better positioned to be successful in these stressed economic times. The participating bank's corporate culture, relative to the value of a portion of its customer base that was unprofitable or marginally profitable, and the bank's willingness to move away from these customers, and their propensity to show profit levels not enjoyed by their competitors, allows for their survival today.

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PROSPECTS OF CHINA'S ECONOMIC SUPERIORITY

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ABSTRACT

The purpose of the paper is to discuss restraints and opportunities of China to become a superpower. The paper begins with the discussion of China's problems, such as government intervention in stock and bond markets and in the banking sector. Most economic problems that China is experiencing stem from excessive government control. The paper explains China's lack of self-sufficiency and other important restraints on progressing to a high economic level such as the mindset of the Chinese and the influence of communist ideology. Despite all of the issues, the tremendous potential of China shines through. China's transition from a command economy to a mixed economy and its rapid development seemed impossible fifty years ago, and yet now, China is the world's primary exporter and manufacturer. The paper highlights the positives of China, such as the rise of its stock market, the right response to the recent financial crisis, and an increase in its domestic demand. The paper contends that the U.S. economy is not problem-free either and some might argue that it is heading the wrong direction while China is on the correct path for transformation.

Keywords: *Government intervention, lack of self-sufficiency, communist ideology, world's exporter, financial crisis*

1. INTRODUCTION

Throughout the twentieth century two nations, the United States and Soviet Union, dominated the world militarily. Once the Soviet Union collapsed in 1991, it appeared only one superpower was left. However, another country appeared on the international arena and now poses a serious threat to US dominance, especially from an economic standpoint. In the late 1970's, China stepped onto the path of market liberalization, adopted an open door policy and increased trading on an international level. Even though China is a developing country with a totalitarian regime, the open door policy resulted in the growth of Chinese economy at the rate of 10% since the 1980's (Piovani and Li, 2011). China has become a major supplier of manufactured goods to the rest of the world. The question arises whether China will become a new superpower and overshadow USA on the economic and military level.

China is on the right track with market liberalization and development, but it still possesses some characteristics which can derail it from superpower status. Government intervention is the major problem and it could be asserted that all their other problems stem from that one problem. Even though the government allows private property and is not as resistant to business as it used to be, it still holds control over the market. China’s totalitarian regime makes it difficult to start a business and imposes tight regulations to control the existing businesses. The government controls the stock and bond market in such a way as to benefit the official elites. The banking sector is highly dominated by China's government; most banks are hybridly-owned, that is, owned by both shareholders and the government. The restrictive Chinese government regulations slow the process of economic development (Magnus, 2011).

The Chinese economy has low domestic consumption and high dependence on its exports to foreign countries. Low domestic consumption is the result of a small middle class and a low standard of living level. The majority of the Chinese are still low-wage factory workers who are unwilling to spend money and increase domestic demand, thus, making the country dependent on foreign demand. The crisis of 2008 hurt China's economy because foreign nations limited their consumption and China's exports decreased. However, it was not only China that was hurt; the USA also was hurt by the crisis. Arguably, the response of China's government to the crisis was more reasonable and effective than the US governmental response (Swanson, 2009). China has a strong potential of becoming a superpower, if it ameliorates the problem of government intervention in the economy and businesses. A radical change on the political, economic and social levels is needed in order to liberate China's market, allow it to develop freely, and thus, enable the nation to become more self-sufficient.

2. LITERATURE REVIEW

Whether China is going to become a superpower is a matter of concern to many researchers and analysts. They come to different conclusions, but both sides provide interesting points. Some of the researchers claim that China's government system is flawed, and it makes economic model unsustainable. The assertion of French (2011) is that the Chinese government controls stock and bond markets to gain an unfair advantage. The author explains the problems of the banking sector and the necessity of government to bail them out. Magnus (2011) also discusses the party elites and state-owned banks controlling China's economic sector. Yeung (2009) discusses the concept of "hybrid property" of Chinese banks and all the regulations the government imposes on privately-owned, foreign banks.

Another group of researchers attempt to prove the lack of self-sufficiency of China. Li and Gong (2011) blame the problems of China's economic development on their extensive growth model rather than a move to intensive. Chinese cost of labor and domestic consumption is still low. Piovani and Li (2011) expand the theme of China's lack of self-sufficiency by arguing that China's economic growth heavily depends on net exports and foreign demand as well as their unethical business behavior. Lu (2009) describes the lack of ethical principles in the Chinese market sector and gives possible reasons for that, such as limited understanding of a concept of corporation and of a true value of capitalism.

Some researchers also highlight the positives of China's rapid economic development and progress. Chang and Xu (2008) organized a study of spillover and competition effects of FDI on Chinese local firms. The empirical study shows that positive spillover effects outweigh the negative competition effects from non-HMT (Hong-Kong, Macau, Taiwan) firms. Sun (2011) also conducts the study of the effects of FDI technology spillovers on Chinese manufacture. A one percent increase in FDI results in a 5.87% increase in Chinese firm labor productivity. Other authors claim China to no longer be just a manufacturing giant, but also a services giant. Xing (2011) shows the rise of Chinese information technology exports, and He, Wang, and Cheng (2011) show the growth of real estate market of China. Zhixiong and Xiaoli (2008) discussed the rising value of China's stock market.

Finally, a group of analysts studied the effects of recent financial crises on the Chinese and the U.S. economies. Swanson (2009) applauds China for keeping the household debt low and maintaining reserves of money. Ji (2010) believes the Chinese government handled the crises wisely by introducing stimulus packages, allowing tax rebates, and lowering interest rates. Thomas (2010) shows the Chinese attempts to improve business legal environment in order to boost investors' trust.

3. LIMITS ON CHINA'S DEVELOPMENT

3.1 Government Intervention

A country with a totalitarian government and socialist system will have difficulties with economic development due to inefficiencies and lack of incentives. For example, the Soviet Union was a military superpower, but possessed weaknesses in the economic sector, which eventually resulted in the nation's failure. China learned from the Soviet Union's collapse and has transformed from a command economy into a mixed economy. In the 1970's, the Chinese government allowed autonomy to farmers which benefited the agricultural sector. In 1978, China adopted an open door policy and facilitated foreign investment through tax incentives (Piovani and Li, 2011). In the 1980's, the policy paid off and resulted in 10% annual economic growth. By the end of the 1990's, the privatization of most state-owned enterprises was finished, and the stock market appeared (Piovani and Li, 2011). After the entry in the WTO in 2001, the Chinese government became even more involved in liberalization of the economy and eliminated restrictions in banking, foreign investment, and real estate (He et al, 2011). From 1980-2000, per capita consumption in China had increased (Piovani and Li, 2011).

Still, in terms of ease of starting and doing business, China ranks 91st out of 183 countries due to state regulation of enterprises (Wall Street Journal, 2011). Foreign investors have to weigh the concern that the government, will by definition, routinely interfere in the business. China's development still depends on FDI, but investors are definitely alienated by government regulations. The government also controls the stock and bond market which gives the elite officials an advantage to profit from the stock markets (French, 2011). Even though some freedom was given to the banking sector, China's elite government officials still dominate banking through hybrid ownership of banks,

3.2 Control over the Banking System

China's communist leadership is directly involved in controlling the banking industry. Both Chinese government and foreign investors own state-owned commercial banks (SOCB's) and joint-stock commercial banks (JSCB's), but the state holds the majority of shares and remains in control; therefore, the banks are both publicly and privately owned (Yeung, 2009). After December 2006, China opened up the banking industry to foreign banks, but a wide range of restrictions and regulations were implemented by the China Banking Regulatory Commission (CBRC). Foreign banks should be in operation for three years in China and profitable for two consecutive years in order to provide services to the Chinese people in Chinese currency. Also, CBRC obligates foreign banks to maintain a loan-deposit ratio of 75%. It is so complicated and cost-inefficient for a foreign firm to open a new branch in China that they prefer other acquisitions and mergers. An additional restriction is the geographical constraint of only allowing foreign banks to operate in urban areas (Yeung, 2009).

Foreign firms could not compete with state banks for geographic regions, but they were able to provide much higher level of services than state and local companies. The advantages of dealing with foreign banks attracted Chinese private businessmen. Foreign banks' decision to focus on profitable private businesses brought success, considering that by 2006 roughly 310,000 Chinese households owned more than $1 million in liquid assets (Yeung, 2009).

State-owned banks are striving for efficiency and improvement, but they must maintain the balance between competitiveness and social responsibility. Chinese banks cannot deny services to low-income citizens or reduce operating costs by terminating redundant personnel. Chinese government prevented any financial exclusion of poor people from banking services. Even though China opened up the market to foreign investors and compromised its communist principles, the state-owned institutions cannot operate on free-market rules and are obligated to be socially responsible and less efficient (Yeung, 2009).

China's banks are not self-sufficient, and the government needs to constantly bail them out due to inefficiencies (French, 2011). The PBC (People's Bank of China) makes decisions on behalf of banks, which takes the autonomy from the banks. Still many decisions adopted by the PBC were effective. For example, the PBC handled the hot-money inflows properly in 2003-2005, resulting in monetary stability (Bouvatier, 2010). The main reason for the high inflows in 2003-2005 was the difference in interest rates of China and the USA. Hot money inflows caused the increase in international reserves of China. The typical mistake of banking institutions is to increase domestic credit when the amount of hot money is high which may lead to currency devaluation. When paying back the foreign investors, the banks would need to convert a larger amount of national currency and the interest rates for domestic loans would need to increase. The households are often not able to repay the loans and higher interest and this results in economic instability. China avoided the negative consequences of hot money inflow (Bouvatier, 2010).

The banks in the U.S. and Western Europe are not formally obligated to be socially responsible at the expense of efficiency. Banks also have benefits of unlimited competition, which intensifies efficiency and improves quality (Yeung, 2009). China's banking sector needs more freedom and autonomy to boost the competition and become more effective, efficient and independent of government's support.

3.3 China's Economic Problems

The U.S. economy is more developed and possesses more advantages than the Chinese economy. China has not moved from an extensive growth model to intensive. Extensive growth is achieved by using high input of labor and resources, while intensive growth comes from introducing new technologies to workplace and increasing productivity. The transition from extensive to intensive models normally comes when the price of resources, such as labor, rises, and companies are forced to look for methods, other than usage of labor, to increase productivity. In China, the cost of labor, land and other resources are staying at a low level, which in turn though contributes to low domestic consumption (Li and Gong, 2011).

The Chinese economy is highly dependent on foreign investments and demand because domestic demand is low. From a macroeconomic standpoint, China's dependence on net exports is dangerous. China has a trade surplus, 62% thanks to exports to the USA. Because of the economic crisis, China's dependence on the USA to maintain that level of importing makes them vulnerable. Investments from foreign nations can also be chancy if excess capacity is created (Piovani and Li, 2011). Conceivably the two major components of China's GDP, net exports and investments, could harm the economy. Troubling indicators include the decline of net exports, the slowdown of GDP to 5%, decreasing stock indices, and the lay-offs of 10 million people in one year (Swanson, 2009).

High government involvement in the economy results in disequilibrium of prices and impacts the economy negatively by preventing the transition of the growth model from extensive to intensive (Li and Gong, 2011). China needs to restructure its economy from the one that is dependent on export into the one that relies on domestic consumption. The high propensity to save needs to be changed (Magnus, 2011). The power over the economic sector should shift from the party elites and state-owned banks to private companies and households.

3.4 Flaws in the Chinese Thinking

China's people still have the mindset that supports communism and a command economic system. Some Chinese are unhappy with market liberalization and think that China betrayed its communist principles. With growing unemployment and income inequalities, more Chinese are advocating a return to the past (Piovani and Li, 2011).

China started to face problems with the lack of ethics after the entrance of the WTO in 2001. China established an "open-door" policy to transform its economy from planned to market. The Chinese were misled into thinking that the driving force of capitalists was to gain as much profit as possible no matter how. The Chinese people lack the long-term experience of the purposes of business and the different world-views of ethical principles. Therefore, the Chinese businesspeople put profits first and the integrity of the firms second. Also, the Chinese government feared that pressuring capitalists would alienate them from business and tolerated socially irresponsible actions (Lu, 2009). Three global scandals occurred because of poor quality of Chinese exported products. Chinese toothpaste contained glycol and was considered unsafe. Chinese pet food caused a lot of pet deaths because An Ying Biotechnological Development Company and Futian Biotechnological Company added melamine in order to meet protein requirements. Finally, Linklaters Toys were found with lead paint and had to be recalled. (Lu, 2009).

The Chinese people, as a whole, have not been involved with corporations and have grown up with a view of enterprises as evil. They were not introduced to the theories of Corporate Social Responsibility (CSR), but mainly to the theory of evil capitalists making profits. China faces two challenges – preventing socially irresponsible firms from illegal practices and understanding the concept of CSR (Lu, 2009).

4. COMPARISON OF THE U.S. AND CHINA

4.1 The Superiority of the US Economy

China has a long way to go to reach the United States in many different aspects, such as capitalist freedom, economic development, and technology innovation. China's economy is vulnerable and dependent on other nations' demand for its exports. China needs to accumulate a range of assets equal to the US, such as world leading companies, impact on other nations, strong allies, and popular currency. To stabilize its currency and make it an international currency, it is essential for China to free its financial markets from government control (Wolf, 2011). Drastic changes and reforms are required for China to become free of government intervention. However, China can definitely pose a threat to the US dominance after a period of time.

4.2 Positive and Negative Effects of Foreign Direct Investment

China's structural and economic transformation is remarkable, considering the nation's condition not too long ago. The main reason for such a boost in economy was FDI and spillovers from it. FDI usually affects a nation in positive and negative ways. In China's case, the benefits exceed the negatives.

Spillovers are the leaks of information and technological knowledge from international to local firms. Local firms obtain opportunities to learn from foreign entrants and develop themselves. However, it is also important to consider competition effects on local firms' survival. Four types of companies exist in China: HMT, international non-HMT (companies from other countries), reformed local firms (firms that copied and used the information of foreign entrants), and conventional local firms (Chang and Xu, 2008). The study by Chang and Xu (2008) used data from the Annual Industrial Survey Database of the Chinese National Bureau of Statistics.

According to the results, HMT presented a greater threat to local firms than non-HMT foreign companies. HMT companies possess superior knowledge of Chinese culture, of specific geographic regions, and of the difference in consumer tastes and incomes than companies from other nations. Moreover, they share similar resources with local firms. For local companies, it is harder to compete with knowledgeable foreigners. Compared to HMT, other foreign firms have a "strong liability of foreignness," and it balances the benefits of advanced technology and development. HMT companies are free from this liability and are able to exclude local firms from the market. Therefore, the negative competition effects outweigh positive spillover effects in respect to HMT and local firms (Chang and Xu, 2008). In the case of non-HMT and local firms, the scenario is different. Non-HMT entrants and local firms use different resources, and Chinese firms have some advantages and abilities to compete. Therefore, the positive spillover effects outweigh the negative competition effects. Reformed local firms adopted the characteristics of foreign firms through the use of spillovers and pose a high threat to international companies. The competition between HMT, non-HMT foreign firms, reformed local and conventional local firms is intense which results in higher productivity, efficiency and quality, as it compels companies to thrive in order to survive (Chang and Xu, 2008). Despite the negative effects of competition from HMT on local Chinese firms, overall the effects of FDI is positive.

The more recent study of FDI focused on the effects on the manufacturing sector of China, rather than the overall effect. The empirical study presented in the article "Foreign Direct Investment and Technology Spillovers in China's Manufacturing Sector" by Sizhong Sun investigates the possible causes of FDI, such as opportunities for exports and costs of labor and production, and its effects on the industries (2011). The statistics show that foreign investors are interested in areas with higher labor productivity. The effects of FDI are proved to be positive, with a one percent increase in FDI resulting in 5.7707% increase in Chinese firm labor productivity (Sun, 2011).

However, positive changes in economic development and productivity are not met with unconditional public support. Foreign presence in the coastal areas of China is higher than in the central areas (Sun, 2011) and therefore, productivity, development, and in turn, income levels of coastal and middle-China regions are not equal which leads to dissension (Piovani and Li, 2011). The high productivity also led to pollution. One of the factors that attracted foreign investors was the ability to reduce costs by not spending as much money on environment-protection equipment, due to fewer government regulations on this particular issue as China is considered the world's most polluted nation (Piovani and Li, 2011).

4.3 Rising Exports in Information Technology

Many critics of China claim that even though it is the manufacturer of the world, it is not a leader elsewhere. Nonetheless, Chinese information technology (IT) exports are rising, and the real estate market is developing. China is the main exporter of not only labor-intensive manufactured goods, but also of value-added products, such as information technology (Xing, 2011). From 1994-2008, Chinese exports of IT were gradually increasing. In 1994, Chinese exports of IT accounted for only 5.9% in Japan, but in 2008 their share was 44% (Xing, 2011). After China's entry to WTO in 2001, its export rate was increasing, while the rate of other Asian competitors, such as Taiwan, Indonesia, and Singapore, was shrinking. Therefore, China created a crowding-out effect which could take place as a result of intense competition, but also as a consequence of FDI and relocation of production facilities from foreign countries to China. It is noteworthy that 38% of all US imports of IT come from China (Xing, 2011).

4.4 China's Real Estate Market

The real estate market of China attracts many foreign investors since the government lifted restrictions and allowed some freedom. Considering that private property is against communist ideology, China has gone far in its reforms. Since China used to have a command type of economy, FDIRE became possible after the reforms designed to allow private ownership of land, thus, creating the real-estate market (He et al, 2011). In 1979, the Chinese government realized the potential benefits from foreign investment and passed the Chinese-Foreign Equity Joint Venture Law (He et al, 2011). Joint ventures were allowed to buy land and own it. The reform was the start of commercialization of land. In the middle-80's, the government continued encouraging foreign investment by passing Provisions of the State Council of the People's Republic of China for the Encouragement of Foreign Investment (He et al, 2011). In 1990, the law to allow the transfer of land use rights by the means of negotiations was passed. After the entry into the WTO in 2001, the Chinese government became even more involved in liberalization of the economy and eliminated some restrictions (He et al, 2011). The state encouraged foreign direct investment in residential housing through the 2002 Catalogue for the Guidance of Foreign Investment Industries (He et al, 2011). In 2007, the share of FDIRE to the total FDI was 22% (He et al, 2011) which highlights China's interest to foreign investors not just as a manufacturer, but also as a provider of services.

4.5 Rising Values of China's Stocks

Heavy foreign investment and interest in China resulted in the rise of China's stock market. Starting from 2006, the rate of stock growth was increasing, and it is of concern to economists whether such a high rate is healthy or justified (Zhixiong and Xiaoli, 2008). If it is not, the nation would face a rapid decline later. The average monthly growth rate of the Shanghai Stock Exchange Composite Index (SSECI) was 6% in 2006, rising to its peak of 21% in December of this year. Stock prices depend on the condition of the economy; therefore, it is important for the rate of stock growth to be similar to the rate of real GDP growth in the long run (Zhixiong and Xiaoli, 2008). In the case of China, the stock price index was higher than real GDP on a couple of occasions.

It is possible that China's stocks were rising for a long time as a response to recovery from the decline in share prices in 2001. In 2001, the depression was caused by Guquanfenzhi reform (Zhixiong and Xiaoli, 2008). After 2006, the stock market entered a period of sharp and consistent growth. VAR and extrapolation analyses presented in the article "Understanding the Recent Performance of China's Stock Market" aimed at forecasting the values of SSECI to prove that the prices of China's stocks were actually lower than expected (Zhixiong and Xiaoli, 2008). However, the speed of recovery growth is a matter of concern. The extrapolation analysis shows that China's stock market performance will be inconsistent with nation's economic growth if the boom does not end. Too high of a deviation from GDP in the long run can result in rapid decline of stock prices.

4.6 Consequences of Financial Crisis

China is criticized for numerous regulations imposed by the government. However, some experts heavily criticize the US and the direction it is taking. China does have issues, but the United States is not free of problems either. The critics of the US claim that China is on the right path of economic market liberalization, while the direction of the United States is shifting toward regulated economy (Swanson, 2009). According to the IPO of China Railway, the government takes seriously the privatization of state-owned enterprises. Big national banks of China are gradually privatized, in contrast to the banks of the United States. China allows short selling and margin trading while such practices are limited on the West (Swanson, 2009).

Both the United States and China experienced difficulties caused by the financial crisis. The Chinese government's reaction to the crisis included stimulus packages, help to the investors and banks by lowering interest rates and bank reserve requirements, and tax policies, such as export tax rebates and reduction of transaction taxes (Ji, 2010). The United States government reacted in a similar way. However, China has the ability to handle crises because of the solid material foundation built during the times of economic growth. During the 30 years of economic growth, China accumulated foreign and domestic reserves. Therefore, the government had the opportunity to introduce stimulus packages without damage to its assets and serve as an investor to industries without accumulating debt (Ji, 2010).

At the same time, households were saving money during the time of China's economic development, and people's consumption did not drop rapidly when the period of growth stopped (Ji, 2010). Low domestic consumption does hurt the economy, but the consumption should not increase the debt as much as it does in the USA. Household debt in China is about 13% of GDP compared to USA household debt of 100% (Swanson, 2009)

5. CHINA'S RESPONSE TO CRISIS

China's GDP never depended on domestic consumption, but it does depend on foreign demand on exports and foreign investment. The demand has declined because of the financial crisis, and China is struggling now. Furthermore, many multinational companies are moving the production away from China in an attempt to reduce the costs. The interest of foreigners and investors is not as high as it used to be due to the rise in the cost of labor in China, frustrating government restrictions, and a difficult business environment.

As China moved from the command to open-market economy, it adopted the first comprehensive set of contract rules, 1999 Uniform Contract Law designed to help and protect business transactions between international and domestic firms (Thomas, 2010). Before the UCL, the rules for foreign and domestic contracts were divided and put the Foreign Economic Contract Law and Economic Contract Law respectively. The lack of consistency between the two provisions created ambiguities and complications. Another advantage of UCL was the fact that it included the concept of "offer and acceptance," "repudiation," and the validity of the oral contract (Thomas, 2010). Still the new law was difficult to implement and its ambiguous parts made differing interpretations possible (Thomas, 2010).

The Chinese government is attempting to improve the legal environment in response to the crisis. In 2009, the Judicial Interpretation and Guiding Opinion were passed (Thomas, 2010). Three of the useful provisions were the obligation of a contract's drafter to reveal all the important terms, protection for oral contracts and a debt-ranking system (the order in which debts must be paid). Finally, the Judicial Interpretation covered the rules concerning the breach of contracts, such as the amount of liquidated damages that must be paid and changes in circumstances that might serve as an excuse (Thomas, 2010). Overall, the Interpretation resulted in a positive effect on market confidence.

6. IMPLICATIONS FOR THE FUTURE

China needs to depend less on other nations' demand for its products and become more self-sufficient. Domestic demand must increase but such change cannot happen until a middle class appears. China needs to transform from a labor extensive to a labor intensive level of development which will cause the standard of living to improve and a middle class to evolve. Still the Chinese must be careful in implementing changes. If the economic development changes to labor-intensive quickly, and the cost of labor rises, foreign investors may go elsewhere. The Low cost of labor attracts foreign investors, and it is important not to lose foreign interest too early. The cost of labor can rise only after China stops relying so much on foreign investment and becomes more self-sufficient. Political change would be needed since with the tight government control and communist ideology, it is harder for the economy to develop.

It is questionable whether the Chinese have adopted capitalist ideology, yet. In fact, some of them remain strong supporters of socialism. To change the communist government system, a large number of people committed to capitalism are needed. Secondly, too drastic and violent reforms may lead to chaos and anarchy, which is dangerous. Charismatic leaders often use chaos to gain power, and at times, new authority can be even worse. It is important to make sure that changes are helping, not damaging.

7. SUMMARY AND CONCLUSION

China has a great potential of becoming a superpower if it handles its political, economic, and cultural problems properly. Drastic reforms to eliminate government elites' control over major sectors of the economy are necessary. China needs to continue its path to market liberalization despite the protests of communist Chinese. The problem of high dependence on exports and on foreign demand needs to be addressed in order for China to become self-sufficient and reach the level of the USA. However, China has a potential to overcome its problems considering the nation's impressive actions in the past, such as its impressive transformation from planned to mixed economy in 1990's. The speed of China's development of information technology, real estate, and stock markets speaks volumes. Despite the criticism of China's high propensity to save and low domestic consumption, the flipside of the coin exists. China has low household debt and high money reserves, as opposed to the huge American debt. According to the recent research, China's domestic demand is gradually rising, which is a positive sign (Back, 2011). Finally, China's response to the recent financial crisis was adequate, while it is difficult to say the same about the response of the USA. Therefore, the results of the research compel one to seriously consider the possibility of China becoming a superpower and posing a threat to the dominance of the USA.

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ARE EXPLICIT BAGGAGE FEES THE ANSWER TO RISING AIRLINE OPERATING COSTS?

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ABSTRACT

In recent years, airlines have come under increased scrutiny, by passengers, over the increasing trend of unbundling fees for services that were previously included in ticket prices, with a particular emphasis on checked baggage fees. This paper addresses whether explicit checked baggage fees, which have been implemented by many airlines despite leading the list of reported passenger outrages, are the answer to rising operating costs. We find evidence to the contrary when long-run factors are considered.

Keywords: *Airline pricing, Baggage fees, Explicit vs. implicit fees*

1. INTRODUCTION

The structure of air travel pricing has changed drastically in recent years, with a growing number of airlines implementing explicit fees for services that traditionally were included in the price of the ticket. As a result, a seemingly low price can end up costing significantly more after all taxes and fees are included, to the disdain of passengers. These new fees, which became widespread in the industry beginning in 2008, include gasoline surcharges along with charges for on-board snacks, seat selection, priority boarding, and checked baggage. While many fees have been accepted by passengers as long as they perceive a utility from their payment, checked baggage fees, despite their now commonplace usage in the industry, have not been met with a great degree of acceptance by passengers.

In a study by Stoller (2010), passengers cited the lack of baggage fees as one of the main reasons for choosing Southwest Airlines over other U.S. airlines. These passengers see checked baggage (at least the first checked bag) as a travel necessity and therefore perceive the checked baggage fee as a customer service failure of airlines not meeting customer expectations. This perception of a failure in customer service does not seem to be existent when regarding other fees charged by airlines. In fact, even the checked baggage fee was more acceptable when instituted due to passengers' awareness of drastically rising oil prices (which was the main reason given by the airlines for the fees in the first place). However, when the airlines kept the fees after oil prices came down, it caused a rise in the ire of passengers, adding to the customer perception of service failure.

2. EXPLICIT vs. IMPLICIT BAGGAGE FEE PRICING

Product and service failures can have egregious consequences for the firm. Since passengers have an *expectation* that their first checked bag should be included as part of their air travel service, dissatisfaction occurs as a result of the disconfirmation of expectations paradigm (Oliver and DeSarbo, 1988). This paradigm states that the satisfaction that is felt by customers is made by prior expectations of how the service *should* be extended. When their actual perception of performance falls below what was expected, dissatisfaction occurs. According to Bitner (1990), dissatisfaction is compounded when the customer views the failure as controllable by the firm or that the cause of the failure is stable (i.e., likely to recur). Explicitly charging for checked baggage shows all the signs of a stable practice and is certainly controllable by the firm.

Folkes (1984) points to customer anger and an increased intention to lodge complaints as another consequence of service (and product) failure that may lead to a desire to hurt the firm's business. The desire to hurt the firm is carried out through customer switching or bad word-of-mouth (which can lead to more customer switching behavior).The biggest detriment to a firm of failures in service is customer switching. As discussed in Carlsson and Lofgren (2006), switching costs in the airline industry can be high, and therefore once a customer chooses to switch, the impact on profits can be substantial. Further, Keaveney (1995) points to “post-switching” behavior as another consequence in service industries, showing that 75% of customers who had switched services had told at least one other person (and usually many others) about the incident that caused them to switch.

Passengers must understand that airlines need to make business decisions that boost revenues in order to stay competitive. It is no secret that oil prices have risen in recent years and have been extremely volatile. This volatility in oil prices coupled with a weakened passenger demand, due to the downturn in the economy, are challenges that the entire airline industry has had to face in recent times. According to a U.S. Government Accountability Office (GAO) report on the commercial aviation industry, the passenger airline industry incurred $4.4 billion in operating losses for calendar years 2008 and 2009, largely due to rising oil prices but also due to increased security costs (Blunk et al., 2006). This led airlines to implement revenue generating fees for services that previously were included in base ticket prices, with checked baggage fees among the most profitable. But because explicit checked baggage fees seem to enrage passengers the most, the question becomes whether the airlines should continue this practice or implicitly charge by embedding these fees in the price of the ticket.

Anderson and Claus (1976) state that a “desirable effect of charging fees for a service is that they induce efficient behavior”. However, explicit charges for checked baggage have produced the opposite effect. The GAO (2010) documents a dramatic increase in the amount of carry-on baggage as a direct result of passengers attempting to bypass the checked baggage fees. Darby (2010) reports the concerns of flight attendants over the increase in carry-on baggage along with their increased weight. This has led to an increase in checked bags at the gate when there is no room for them in the cabin, and subsequent delays that occur from the process.

Flight delays are one of the biggest liabilities to airline profits (see Morrison and Winston, 2008 and Bishop et al., 2011), costing the industry $40.7 billion in 2007. If delays are a large part of the erosion of profits and checked baggage fees are seen as the main culprit for delays caused by excessive carry-on baggage, this would provide impetus for airlines to reconsider their baggage fees.

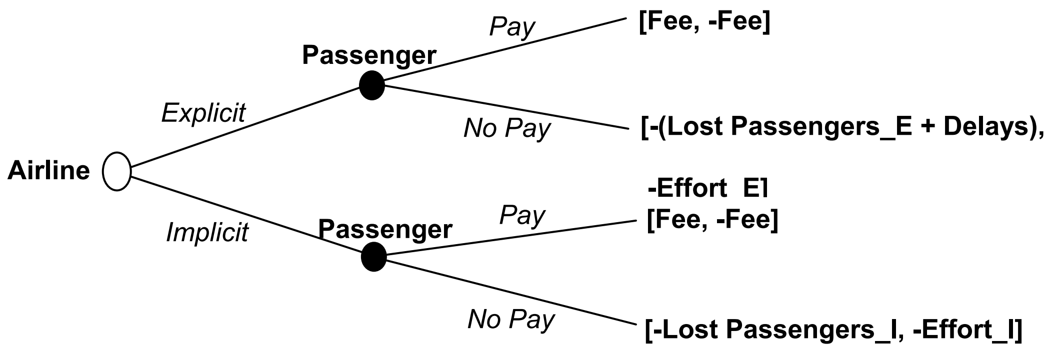
The next section presents two simple two-player illustrations to address the question of whether explicit baggage fees are the best strategy for airlines to increase revenues to meet rising operating costs. The first is an extensive-form game between an airline and passenger, while the second shows a normal-form game between two competing airlines. The models will suggest that the optimal strategy is to incorporate baggage fees (i.e., use implicit pricing) into published air fares.

3. MODEL

The model presented in this paper focuses on explicit charges for the first checked bag, using the assumption that many passengers consider the first checked bag a necessity. Moreover, they should expect a charge for a second checked bag and could not circumvent this charge by attempting to carry-on anything beyond what would be contained in their first checked bag. Besides, only the charge for the first checked bag could be absorbed into the price of the ticket as an implicit charge without raising concerns about higher ticket prices. Further, we consider only the incremental payoffs (costs) that occur as a result of the decision to implicitly or explicitly charge for baggage.

Figure 1 presents a two-player extensive-form game where an airline chooses its fee structure and a passenger responds. For this analysis, lost customers are assumed lost for good (at least in the short run), meaning that eliminating the bag fee will not bring back passengers who switch to another airline.

FIGURE 1: EXTENSIVE FORM GAME BETWEEN AIRLINE AND PASSENGER



Payoffs:

- If (Explicit, Pay), the payoff to the airline is the fee charged while the payoff to the passenger is the cost of the fee.
- If (Implicit, Pay), the payoff to the airline is the fee charged while the payoff to the passenger is the cost of the fee.
- If (Explicit, No Pay), the payoff to the airline is a cost combination of lost customers due to the explicit fee (Lost Passengers_E) plus the cost of delays from increased carry-on baggage and baggage checked at the gate (which garners no fee). The payoff to the passenger is the cost of effort to use only carry-ons or to switch airlines.
- If (Implicit, No Pay), the payoff to the airline is only the cost of lost passengers (Lost Passengers_I), while passengers find alternative transportation. Delays are not included because these passengers are not on board to cause the delays.

Presumably, **Lost Passengers_E > Lost Passengers_I** for two reasons: First, more customers will be lost as a result of their explicit awareness of the fees as passengers are not as aware of implicit fees. Second, the ability of an airline that does not charge explicit fees to advertise that fact, when others are explicitly charging, will encourage passengers to steer away from the explicit chargers. For this reason, (*Lost Passengers_E + Delays*) results in a much greater loss for the airline than *Lost Passengers_I*. Passengers will choose to avoid the fee when possible and choose between the lesser of the two losses.

Figure 2 presents a normal-form game played between an airline duopoly with each airline choosing whether to employ explicit or implicit fees. In a meeting with analysts in early 2010, Southwest CEO Gary Kelly attributed Southwest's 1% increase in market share for 2009 to its "bags fly free" campaign. For this reason, the payoffs to the airline in this game are a representation of the effects of their decision on their market share relative to the other airline.

FIGURE 2: NORMAL FORM GAME BETWEEN TWO COMPETING AIRLINES

		Airline 2	
		Explicit	*Implicit*
Airline 1	*Explicit*	(0, 0)	(-1, +1)
	Implicit	(+1, -1)	(0, 0)

Payoffs:

- If both airlines charge in the same manner, neither will see a change in their market share (0, 0).
- If one airline charges implicitly while its competitor charges explicit fees, the airline that charges implicitly will draw market share away from its competitor (+1, -1).

When competing for market share in the industry, we can see that the dominant strategy for the airline is to employ the implicit pricing strategy. At worst, they keep the market share that they had and at best, capture market share from their competitor. The ability to gain market share from marketing a "bags fly free" campaign highlights the benefit of implicit charges when competitors choose explicit charges as the firm benefits through gains in their reputation. Hess (2008) finds that firms with excellent reputations experience a "buffering effect" that allows them to absorb the negative effects of service failures better than firms with worse reputations. In fact, a good reputation can elicit many positive customer responses such as their choices of services (Traynor, 1983), purchase intentions (Yoon et al., 1993), and trust (Johnson and Grayson, 2005).

4. EMPIRICAL EVIDENCE

Of major U.S. airlines, Southwest is the only airline that does not explicitly charge for baggage. We therefore use Southwest as a base for comparison against other major U.S. airlines (Delta, US Airways, United, and American) that do charge explicit baggage fees. Our dataset includes a sample of twenty groups of airline ticket prices to determine if a difference exists between airlines that charge baggage fees and Southwest.

For the sample of airlines that charge checked baggage fees, airfares from Delta, US Airways, United, and American were obtained from Orbitz.com on routes that at least three of four airlines serves and competes against Southwest. The exact routes are shown in the Appendix. For each route, the fare from Southwest (using its website) was found and compared to the average fare from the other four airlines. These fares and differences are shown in Table 1. The point of this exercise is to see if, on average, Southwest charges fares between $20 and $25 (the range of explicit checked baggage fees) more than the others. This would confirm that, even without the explicit fees, Southwest was indeed finding the increased revenue that all airlines are assumed to need to stay competitive in an environment of higher operational costs. Since there are different ways of reporting airfares, the following filters were used in order to create a fair comparison:

- All fares are adult, round-trip, economy-class tickets.
- All fares ***do not*** include taxes and fees that are subject to all airlines uniformly.
- All fares are the lowest quoted for that day.
- Fare specials were left out of the sample as such fares are not regularly available.
- All flights are domestic as most carriers do not charge a fee for the first checked bag on international flights.
- Flights were drawn from larger markets served by multiple carriers to avoid fares being skewed by monopoly pricing.
- Fares were drawn from various travel days of the week.

When an airfare was not available for one of the airlines that charges explicit baggage fees, the average was taken without this carrier. "Difference" is the difference between the fare for Southwest and the average fare for the "explicit chargers" for each flight. Across all of our sample routes, Southwest on average charges $27.10 more per ticket than the average for airlines that charge explicit baggage fees. This evidence suggests that Southwest manages to secure the increased revenue without charging explicit checked baggage fees.

TABLE 1: SUMMARY OF ROUTE PRICING AMONG FIVE MAJOR U.S. AIRLINES

Flight #	Southwest	Delta	American	United	US Air	Explicit Avg.	Diff.
1	298	278	258	268	258	265.5	32.5
2	318	284	289	319	296	297.0	21.0
3	240	192	n/a	210	192	198.0	42.0
4	193	218	198	193	168	194.3	-1.3
5	379	196	488	228	196	277.0	102.0
6	260	260	260	260	260	260.0	0.0
7	261	253	n/a	253	273	259.7	1.3
8	352	356	n/a	352	362	356.7	-4.7
9	374	328	328	318	n/a	324.7	49.3
10	418	n/a	362	357	354	357.7	60.3
11	218	207	196	n/a	235	212.7	5.3
12	224	224	224	224	224	224.0	0.0
13	463	316	312	404	312	336.0	127.0
14	188	188	188	188	188	188.0	0.0
15	318	318	318	318	318	318.0	0.0
16	178	143	143	143	108	134.3	43.8
17	327	306	306	306	323	310.3	16.8
18	248	228	228	248	228	233.0	15.0
19	340	390	n/a	360	420	390.0	-50.0
20	388	288	314	313	313	307.0	81.0
						Avg. Diff	**$27.10**

5. CONCLUSION

In times of rising operating costs, airlines must devise ways of increasing revenues in order to stay competitive. In recent years, airlines have attempted to defray these rising operating costs through unbundling services that were previously incorporated in the price of the ticket. The fee that has antagonized passengers the most is the checked baggage fee. This paper provided a basic model with empirical evidence showing that explicit checked baggage fees are not in the best interest of airlines when all potentials costs are considered. It is still premature to determine whether such fees ultimately remain in the industry, as the outcome of the strategy has yet to be fully determined.

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APPENDIX

Flight #	Depart	Arrive	Flight Dates
1	New York, NY	Los Angeles, CA	Mon 1/10/11 – Fri 1/14/11
2	Fort Lauderdale, FL	San Diego, CA	Fri 2/25/11 – Sun 2/27/11
3	Jacksonville, FL	Raleigh Durham, NC	Sun 2/6/11 – Sun 2/13/11
4	Houston, TX	Buffalo, NY	Thur 12/9/10 – Sun 12/12/10
5	Orlando, FL	Detroit, MI	Sat 4/2/11 – Wed 4/6/11
6	Austin, TX	Columbus, OH	Tue 1/25/11 – Fri 1/28/11
7	Providence, RI	Ft. Lauderdale, FL	Mon 4/25/11 – Sat 4/30/11
8	Cleveland, OH	Philadelphia, PA	Tue 3/8/11 – Tue 3/15/11
9	San Francisco, CA	Dallas, TX	Tue 5/3/11 – Sat 5/7/11
10	Oklahoma City, OK	Hartford, CT	Thur 2/17/11 – Mon 2/21/11
11	Boise, ID	Oakland, CA	Wed 12/1/10 – Mon 12/6/10
12	Omaha, NB	San Francisco, CA	Mon 12/6/10 – Fri 12/10/10
13	Albuquerque, NM	Philadelphia, PA	Fri 12/17/10 – Mon 12/20/10
14	Columbus, OH	Jacksonville, FL	Sat 2/12/11 – Tue 2/15/11
15	Birmingham, AL	Reno, NV	Wed 3/2/11 – Mon 3/7/11
16	New Orleans, LA	Boston, MA	Mon 1/10/11 – Wed 1/12/11
17	Detroit, MI	Seattle, WA	Thur 2/24/11 – Sun 2/27/11
18	Nashville, TN	Los Angeles	Wed 1/12/11 – Sun 1/16/11
19	Kansas City, MO	Boise, ID	Fri 3/11/11 – Sun 3/13/11
20	Phoenix, AZ	Pittsburgh, PA	Tue 4/12/11 – Sat 4/16/11

Data was collected from Fri. 11/19/2010 through Fri. 11/26/2010

WHAT WOULD STOP UNDERGRADUATE STUDENTS FROM CHEATING?

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ABSTRACT

There is a plethora of studies outlying the various factors which may affect undergraduate student cheating which generally focus on individual, situational and deterrent factors. But what do students say would stop them from cheating? The most important consideration of what would stop students from cheating seems to be their 'own principles and beliefs' and the second consideration is 'fear of getting caught'. 'Other people's trust in me' and 'signing an honor pledge' did not appear to be important considerations to the students. Gender, type of institution and ethical discussions in class appear to play a role.

Keywords: *Cheating (Education); Undergraduates; Student Attitudes; Student Ethics, Academic Climate*

1. INTRODUCTION

The continuing widespread nature of financial scandals has directed attention to the ethical decision-making process and the influence of higher education in developing the leaders of tomorrow. Although universities and colleges often consider themselves to be a community of educators and students ethically pursuing knowledge and truth, academic dishonesty has been prevalent on college campuses (McCabe and Trevino, 1996). Much has been written about dishonesty at the college level. A plethora of studies outlying the various factors (such as gender, religious affiliations, age, major, etc.) which may affect undergraduate student cheating generally focus on individual factors and situational factors (Crown and Spiller, 1998; Whitley, 1998). Two of the reasons students provide as to why they would not cheat were based on the fear of consequences and personal character (Miller, Shoptaugh, and Wooldrdge, 2011),

2. BACKGROUND AND LITERATURE REVIEW

2.1 Cheating

We define "cheating" as a violation of intellectual property. In turn, intellectual property is generically defined by Webster's dictionary as "property derived from the work of an individual's mind or intellect." Therefore, we defined cheating as any violation of that definition. This includes plagiarism of any kind, including incorporation of any part of uncited text in a paper; buying a paper and using it; copying part of or complete homework assignments; or illegally obtaining test answers. It also includes illegally obtaining digital music or software.

2.2 Individual Factors

Gender is considered one important aspect that shapes student ethical behavior with most research reporting that female students respond more ethically than male students (Tibbetts, 1999; Simon et al., 2004; Smyth et al., 2009). Previous studies examining academic dishonesty have found gender differences among college students using various environments including assessing situations as unethical (Smyth et al., 2009), reporting academic dishonesty (Simon et al., 2004), engaging in dishonest acts (McCabe et al., 2001; Rakovski, 2007) and predicting cheating (McCabe and Trevino, 1997). One theory elucidating the findings that women are less likely to participate in unethical behavior is that there are developmental gender differences. Socialization is thought to influence dishonest tendencies through differences in internalized role requirements. Tibbetts (1999) found that two factors, low self-control and anticipated shame, accounted for a significant effect of gender on intentions to cheat; females tended to feel more shame while men tended to exhibit less self-control. Many of the prior studies on academic dishonesty have used gender as an explanatory variable or control variable which presumes that internal constraints and individual characteristics account for significant differences between female and male ethical behavior.

H1: Student responses as to what would stop them from cheating, is independent of gender.

2.3 Situational Factors

Ethical behavior responses may be influenced by others with whom students share norms, values, and attitudes (Ferrell and Gresham 1985). Additionally, students' behavior is significantly impacted by their perceptions of the state of ethics in their academic communities (Gerdeman, 2000). Several variables representing external or contextual factors, such as fraternity/sorority membership, peer cheating behavior, peer disapproval of cheating and perceived severity of penalties for cheating was found to be significantly more influential than the individual factors (age, gender, GPA) for students attending a large, public college (McCabe and Trevino, 1997). These findings are similar to the McCabe and Trevino (1993) study of smaller colleges in which they found that peer behavior was the most significant correlate of student cheating. They concluded that "…peers' behavior provides a kind of normative support for cheating…" (p. 533). McCabe and Trevino (1995) suggest that students at smaller institutions may react more to externally imposed penalties.

H2: Student responses as to what would stop them from cheating, is independent of the type of institution.

McCabe, Trevino and Butterfield's (2001, p. 219) research "… also suggests that although both individual and contextual factors influence cheating, contextual factors such as students' perceptions of peers' behavior, are the most powerful influence. In addition, an institution's academic integrity programs and policies, such as honor codes, can have a significant influence on students' behavior." If students believe that others within their group are cheating, they are more likely to cheat as well. Zey-Ferrell et al (1979) suggest that perceptions of peer behavior are thought to be a better predictor of self-reported unethical behavior than one's own beliefs. Greening and Kummerfeld (2004) favor integrating ethics coverage throughout the curriculum and Bodkin and Stevenson, (2007), find that reinforcement of marketing ethical concepts through discussion in multiple places in the curriculum is more effective than having one ethics class.

H3: Student responses as to what would stop them from cheating, is independent of the whether they have ever discussed ethical issues in a course.

3. METHODOLOGY

We are interested in exploring the potential relationship between students' basic ethical positions and their opinions on cheating in college. Using methodology and survey questionnaires similar to previous research studies (Molnar et. al., 2008, 2009), we requested students to complete a questionnaire asking their perceptions of cheating at their institution. We used questionnaires since intention to engage in a behavior is a good predictor of behavior (Beck and Ajzen, 1991) and asking respondents to report intentions to cheat rather than how often they engage in cheating is less threatening and will likely yield more honest responses (Kisamore, Stone and Jawahar, 2007).

Surveys were administered to undergraduate students at two different geographical academic locations in the fall semester 2009 and fall semester 2010. The first institution is private, liberal arts, Catholic college of approximately 2,000 students. The second institution is a large public comprehensive university with approximately 30,000 graduate and undergraduate students. Both institutions had an honor code/academic integrity policy in place. All subjects volunteered to take the survey and no extra credit was provided. All subjects were guaranteed complete anonymity; no personal identifying data of any sort was collected. The subjects were reminded to read the questions closely and were given adequate time to complete the surveys.

The survey asked how the students felt about cheating using technology (e.g. It is okay for me to download or copy music/software/computer games without complying with the licensing agreement) versus not using technology (e.g., It is okay for me to photocopy a book/article without complying with the copyright). The questions were divided into various categories of intellectual property violations which included, copying of music/software/computer games, photocopying without complying with copyrights, copying electronically or non-electronically part of or complete homework assignments, copying electronically or non-electronically part of or complete papers, buying or borrowing a paper, and illegally getting test answers electronically or non-electronically. In addition, after each one of the above types of questions, students were asked a another question about what would stop the students from doing that cheating activity from 1) fear of getting caught,

2) my own principles and beliefs, 3) other people's trust in me, 4) signing an honor pledge or 5) nothing would stop me.

4. RESULTS

A total of 506 usable questionnaires were returned. (Six questionnaires were deemed unusable since the students completed only the first page of the survey). Of the usable questionnaires, 305 were male students, 198 were female students and 3 were missing gender information. 235 questionnaires were from a small, private liberal arts college in the north mid-west and 271 questionnaires were from a large, public south mid-western university. 413 had discussed ethical issues in a class, 88 had never discussed ethical issues in a class and 5 had invalid codes. A goodness of fit test was performed for all responses to these questions and then a test of independence was performed for each hypothesis. For the goodness of fit test we used an equal percentage (20%) across each of the five responses as the expected values. This is what we would expect if there were no differences between the responses and the students randomly selected a response to the questions. The resulting chi-square value with 4 degrees of freedom was 4967.44 with a p-value of .000 (see table 1). This suggests that there were differences in the students' responses to these questions and the students did not just randomly select a response.

TABLE 1. REPONSES TO WHAT WOULD STOP STUDENTS FROM CHEATING

Responses	All	Gender		Institution		Ethics Discussed	
		Males	Females	Small, Private	Large, Public	Yes	No
Fear of Getting Caught	33.04%	33.93%	31.98%	29.53%	36.10%	32.10%	37.36%
My own principles and beliefs	53.08%	52.44%	53.76%	54.06%	52.23%	54.99%	44.02%
Other people's trust in me	3.78%	3.86%	3.71%	3.55%	3.98%	3.82%	3.79%
Signing an honor pledge	4.57%	3.66%	6.04%	7.74%	1.82%	3.79%	8.51%
Nothing would stop me	5.53%	6.11%	4.52%	5.13%	5.87%	5.30%	6.32%

H1: Student responses as to what would stop them from cheating, is independent of gender.
Test of independence: Chi-square = 21.99, 4 df, p-value = .000 (see table 1).
This suggests that the students' responses as to what would stop them from cheating, is not independent of gender. 'Fear of getting caught' (1028 observed vs. 1005 expected) and 'nothing would stop me' (185 observed vs. 166 expected) were higher than expected in male student responses, while 'my own principles and beliefs' (1059 observed vs. 1043 expected) and 'signing an honor pledge' (119 observed vs. 90 expected) were higher than expected in female students.

H2: Student responses as to what would stop them from cheating, is independent of the type of institution.
Test of independence: Chi-square = 114.70, 4 df, p-value = .000 (see table 1).
This suggests that the students' responses as to what would stop them from cheating, is not independent of the types of institution. 'Fear of getting caught' (971 observed vs. 889 expected) and 'nothing would stop me' (158 observed vs. 149 expected) responses were higher than expected from students at a large, public institution while 'my own principles and beliefs' (1265 observed vs. 1242 expected) and 'signing an honor pledge' (181 observed vs. 107 expected) were higher than expected from students at a small, private institution.

H3: Student responses as to what would stop them from cheating, is independent of whether they have ever discussed ethical issues in class.
Test of independence: Chi-square = 58.17, 4 df, p-value = .000 (see table 1).
This suggests that the students' responses as to what would stop them from cheating, is not independent of whether they have ever discussed ethical issues in a class. Fear of getting caught' (325 observed vs. 287 expected), 'signing an honor pledge' (74 observed vs. 40 expected) and 'nothing would stop me' (55 observed vs. 48 expected) responses were higher than expected from

students who had not previously discussed ethical issues in a class, while 'my own principles and beliefs' (2261 observed vs. 2182 expected) was higher than expected in students who had previously discussed ethical issues.

5. DISCUSSION

In terms of what would stop students from cheating, the overwhelming majority of all student responses (53.08%) were 'my own principles and beliefs' with 'fear of getting caught' (33.04%) the second highest response. The remaining responses, 'other people's trust in me', 'signing an honor pledge' or 'nothing would stop me', were 3.78%, 4.57% and 5.53%, respectively. Female students, students who attend small, private institutions and students who have discussed ethical issues in a class, responded higher than expected to 'my own principles and beliefs'. Male students, students who attend large, public institutions and students who have not discussed ethical issues responded higher than expected to 'fear of getting caught'. Notably, 'nothing would stop me' has a higher than expected response rate in male students, students who attend large, public institutions and students who have not previously discussed ethical issues in class.

Love and Simmons (1998) found that there were seven internal factors which inhibited cheating or plagiarism. These factors were either the individual's personally held beliefs that tended to encourage them to behave in honest and ethical ways or other attitudes and concerns that caused them to avoid cheating and plagiarism such as fear of being caught. In a study by Simkin and McLeod (2010), the most important reason why students in their sample cheated was the 'desire to get ahead'. The authors suggest that discussing cheating issues in class, building a moral culture, clearly defining cheating and identifying the potential negative consequences of cheating would help counteract their perceptions that cheating would help them 'get ahead'. Our results tend to agree with this prescriptive action for institutions. As suggested by Cano and Sams (2009, p.31) "…*sensitizing* students to the importance of ethical behavior may advance them up the ladder of cognitive moral reasoning."

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DESIGN OF EXECUTIVE MASTERS IN BUSINESS ADMINISTRATION (EMBA) IN SPECIALIZED AREA

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ABSTRACT

The Executive MBA is for experienced executives with 10 or more years of experience in their career and having reached a meaningful role in their organizations. There has been a movement to provide specialized EMBA programs. This article focuses on a specialized EMBA specifically one in Agri-Business. The conceptualization, curriculum, recruiting, and scheduling will be discussed. The authors believe that the future of EMBA is in specialized area.

Keywords: *Executive Masters of Business Administration, agri-business, web based education*

1. INTRODUCTION

EMBA programs offer the opportunity for a University to provide an education using the students experience and not having to rely on theory and functional area teachings. This can lead to two changes in the delivery modality. First the student's business experience enhances the learning process as the traditional course material can focus on an industry. The students can assimilate what is taught by instantly applying the material and electives can then be tailored to the needs of the industry. Secondly, the faculty, who are selected based not only on academic prowess but also their knowledge and experience in the specialized field of the EMBA, can bring more to the classroom. This leads to more integrated business lectures, assignments, and better learning outcomes. The professors not only bring this additional focus but they develop even more industry knowledge as they teach repetitively in a focused industry. These changes produce a higher level of excellence in both student and faculty and a stronger MBA program.

A specialized EMBA becomes more focused on one industry. The students are more homogeneous, their body of knowledge is more consistent, and they are on a more level playing field with their peers. The faculty can spend the time and resources to achieve a higher level of understanding the complexities of the specific industry. The professor' examples and level of teaching are conducive to a higher level of learning and understanding compared with a much more diverse student group and subject matter.

The agricultural industry is the dominant industry in Fresno, California in size and proportion of GDP. There is world-wide optimism about the future of the food industry's health and growth with expectation of increasing prices, and more world trade. There are many new emerging centers world-wide (example is Brazil, Argentine, and Chile) that are aggressively expanding and gaining in technology. With the dynamics of world trading and competition, Agriculture Producers need to consider more dynamic business technologies, structures and strategies. Examples include vertically integrated farms (grower, processor and marketer), and the expansion of global marketing. This suggests there is a substantial opportunity for the Craig School of Business (CSB) EMBA program at California State University in developing people that can take leadership roles in the future in this industry.

From the CSB MBA perspective, the Agricultural School at Fresno State has a strong reputation for teaching agriculture technology (plant science, enology, etc.). Additionally Cal Poly and University of California at Davis have very strong programs that attract valley students with a significant number returning to the Valley. One of the goals of the EMBA Agri-Business program is establishing a reputation that the CSB EMBA is one of the best Business Programs in the agriculture industry. The program would be the "business addition" that complements the technical training our executives received in their Agriculture Programs combined with their executive experience these individuals need for the future. "Branding" is partially accomplished by having a strong Agriculture School at California State University-Fresno. Additionally, the Agriculture Lenders Institute is housed in the CSB. Long term the EMBA in agriculture could evolve into a "destination program" pulling students outside our immediate market area.

2. LITERATURE REVIEW

Executive MBA programs are emerging as the educational method of preparing executives for the complex business environment of today and the future.(Maidment, 2009) Most are part of schools of business; take less than 20 months to complete, regular classrooms are used, and faculty are equally paid as supplement or regular teaching load.

EMBA programs foster integrative thinking and concentrates on complex business problems versus decision making within one functional area. (Latham,2004) These programs have moved away from functionalism to integrative curriculums that challenge students with solving and taking advantage of complex real business issues and opportunities.

The faculties in the EMBA programs are more balanced with core academic faculty, executive faculty, and guest speakers from industry with the latest issues facing our pending graduates (Madzar, 2009). The core academic faculty focuses on decision making tools in their functional area, similar to a traditional MBA program. The executive faculty has more years of experience in executive positions in Industry. They are comprised of former and current faculty who have either returned to industry or have extensive consulting experience in the industry upon which the EMBA focuses. Thus they bring an ability and desire to work on complex problems that span functions but also relates to application areas that the student perceive as relevant for their career.

Applicants and applicant evaluation is a concern in Executive MBA programs (Arnold, 1996). The GMAT remains the best single indicator of performance but does lose some of its strength with the age of the applicant. Therefore, for mature students' inclusion of an interview, job experience, etc. will increase the prediction power.

Instructional modality is an option. The common approach is the traditional classroom with web support containing assignments and communication (Hatcher, 2010). The advantage of moving to a 50%/50% or complete web based curriculum is the ability to expand the catchment area. This is important for a specialized EMBA. The concern is the quality of education. Research on a junior level Management Information Systems course compared completely online with traditional face to face web enhanced where both groups had in person final examine. Comparisons of the final examine performance and an end of semester survey showed no difference in the instructional modalities.

3. METHODOLOGY

3.1 Conceptualization

Establish an EMBA program that focuses on a specific industry. Our effort is agri-business.

- Modify the existing curriculum (avoid start-up delays with reviews and committees). The course content is changed to have a differentiated and relevant program that fits the Agriculture industry.
- The International Experience course that is included in the current EMBA program would continue. The business tours and organization presentations would focus on buyers, traders and benchmark companies in the Agriculture Industry. This trip will have more of a flavor of a trade mission.
- To insure needed change and commitment to providing a strong, developing, and relevant program, some new faculty will be recruited and external speakers used in each class. This suggests that additional budgeting for faculty be included. For example, provide travel and living for an exceptional professor with industry knowledge and possibly honorariums for talented speakers.

- To establish the program and assist in marketing for potential applicants, alliances are needed. These include the Farm Bureau, Agriculture Lenders, and organizations involved in the supply chain.
- The concept suggests focusing on farmer, rancher, dairy men, etc. It is anticipated more of the cohort coming from support industries such as Agriculture lenders, suppliers, producers, co-ops, and financial institutions.
- The schedule would be similar to the existing EMBA program with 40 Saturdays over 60 weeks. These Saturdays are for the core and elective (30 units). The last two classes, the trip and the project, will not need any Saturdays. Three Saturdays as well as three Wednesdays, Thursdays and Fridays will be used for the boot camp. However, scheduling consideration will consider seasonal issues.

3.2 Curriculum

Boot Camp-All classes will be taught over 2, 4 hour sessions except MBA 201

- **MBA 200 Managerial Economics**- speak to Agriculture related issues
- **MBA 201 Accounting and Information Systems**, taught over 4, 4 hour sessions.
- **MBA 203 Methods of Decision Sciences**
- **MBA 204 Global Environment**
- **MBA 205 Production and Operations**

Required Courses (six courses, 18 units)

- **MBA 210 Leadership and Organization Leadership**
- **MBA 211 Mgmt. of Information Systems:** Industrial speakers will present Agriculture related systems (i.e. Agriculture accounting, tracking for food safety, Global Positioning Systems (GPS), safety reporting, human resources). The systems and speakers will be identified by the professor.
- **MBA 212 Financial Management:** Agriculture financial issues such as long cash cycles, heavy debt and fixed asset business, risk mitigation tools and strategies such as hedges, valuations and financing.
- **MBA 213 Managerial Accounting-** The topics discussed are crop profit and loss, fundamental value chain analysis and controls, profit and loss with the use of co-ops and related issues with buying and selling, long cycle budgets (entry and exists costs, out sourcing versus internal sourcing).
- **MBA 214 Marketing Management-** Topics would include the use of co-ops and related marketing arms of this industry.
- **MBA 215 Legal and Regulatory Environment-** Topics include issues on land use and reform, food safety and liability, labor law as it relates to Agriculture, water rights and issues long term, co-op's exemption of anti-trust, etc.,.

Elective Courses (four courses-12 units)

- **MBA 270 New Ventures-** Guest speakers will be incorporated that can cover new innovations in the industry. Other topics discussed are start-ups, value proposition of co-ops, overall long term value proposition (long cycles) and the concept of vertical integration as Agriculture moves up the value chain and processors deal with developing brands or provide private label sourcing. This is a similar issue with marketing companies and suppliers deciding to represent (or not) a competitor's services and products. Farmers have internal entrepreneur decisions when they decide to either outsource or keep a function in house that requires large capital investments that are justified by providing custom services to others.

Students decide between MBA 240 or 230 as both are available in the same 4 weeks.

- **MBA 240 Managing Human Capital-** Team taught with an Executive professor and an industry practitioner. Agriculture industry differs from traditional human resource laws. This relates to salary (overtime laws) as well as worker safety rules. Also this industry deals with private contractors that lead to changes in liability and has financial issues.

- **MBA 230 Advanced Financial Management-** The topics are foreign exchange (currency and risk), securities, derivatives, mergers and acquisitions, evaluations and other financial topics.
- **MBA 289T Business Topics-**
    - **Negotiations-** Domestic and International Negotiations, (one Saturday)
    - **Project Management-** (two Saturdays)
    - **Family Business-Family** business and succession issues, (one Saturday)
- **MBA 290 International Experience** A lecture series on international business will be included and a partner university will help provide various services during the trip. During the trip potential buyers and traders will lecture plus provide tours of their facilities. This trip will take on the air of a trade mission as well as an international business lecture. Asia will be the destination for the trip. China is the potentially largest economy and will be the world's largest food consuming country.

Culminating Experience (two courses-6 units)

- **MBA 279 Business Policy and Strategy** The business environment, agricultural related issues will be addressed (i.e. world marketing and trading, the huge Indian and Chinese consumer markets, the emergences of South America agriculture, regional branding, water world-wide, agriculture productivity, subsidies, energy and land). Risk mitigation strategies are included (i.e. hedging, forward contracts) due to the long cycle times and large capital out lays for these industries. Cases will be Agriculture/food related (small family farm up to the large food corporate conglomerate).
- **MBA 298 Project** The executive will complete a final project under the support of a Professor who will provide final review and grading. Additionally non CSB faculty and MBA alumni currently involved in the Agriculture Industry will be advisors and work one on one with the executive. Assigned faculty members will evaluate the individual project plans and evaluate the final projects as a constructive learning tool for the executive.

3.3 Recruiting

Student recruiting is a major undertaking and the director of the program must work with faculty members and agriculture managers and executives from the community. Advertising and marketing efforts are encouraged. After several cohorts are completed, the recruiting becomes more of a referral process from past graduates. With a specialized program such as agri-business the distance that the program draws becomes greater.

3.4 Scheduling

The program is scheduled for the courses to be 100% face to face with web enhanced over 40 Saturdays during 60 weeks. This timeframe allows financial aid to provide loans over 4 semesters. As the schedule is being developed, consideration is made of major harvest time, trade shows, etc.

4. RESULTS AND DISCUSSION

The program is designed and applications are being taken. The first level of interest comes from current executives in the agriculture business. The second level is from agriculture support industry. The third level is from staff orientated individuals that want the EMBA and the in-depth knowledge in the agriculture business.

The future will determine if applications come from outside our normal catchment area, as it is being predicted. Secondly, the increased depth of the course work and its successful delivery will be evaluated with each course completion.

5. CONCLUSION AND FUTURE RESEARCH

The support from the faculty and community has been much more than expected. The interested in a specialized area for the MBA that is obviously the Best Practice or Core Competency of the region, Joaquin Valley, is high. Future questions surround the mode of delivery. If the courses are shifted from a completely face to face curriculum to 50% / 50% curriculum, to a 100% web based, the catchment area becomes larger. This would allow more specialized EMBA programs to be delivered.

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EXPERIENCE-BASED ADOPTION OF ELECTRONIC TEXTBOOKS IN INFORMATION SYSTEM COURSES

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ABSTRACT

E-books are rising in popularity. In 2011, Amazon reported that they now sold more e-books than print books. Barnes & Noble has announced the same. The textbook industry, however, has been slower to move. This study employs the Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2003) to research relationships of gender, and age.

1. INTRODUCTION

When the Egyptians moved their writings from the walls of caves and tombs to animal skins and parchment, portability was added to the written word. This new "technology" allowed for the written word to be transported, shared, and saved for the future. As the printed page evolved, scrolls were created where an individual would read a single piece of paper from beginning to end. When Gutenberg invented the printing press around 1440, books and knowledge became affordable because it could be mass-produced. Additionally, the new format of breaking text into pages created a high degree of functionality for the reading/studying experience. With an explosion in education, the world experienced a renaissance and humankind has never looked back. The written word has transformed cultures, economies, governments, and education. Today, however, the printed word is facing a challenge of its own in the form of digital books.

2. LITERATURE REVIEW

For nearly 600 years the textbook has been the default tool for delivering course content to students in academic settings. With the development of portable devices that can carry hundreds of books, this age-old tradition is being challenged...so it seems.

Today, e-reader devices such as the Kindle, Nook, and Sony Reader are changing the way people read for pleasure. They have grown rapidly in popularity over the past few years. Recently, both Amazon and Barnes and Noble reported that e-books are outselling their paper books 3 to 1. The portability, weight, and storage makes these devices very popular. So its no surprise that someone thought it would be a great idea to have their textbooks on a e-reader. However, it seems that these devices are not suited for educational markets.

This is partly because of the way the devices work. When people read for pleasure they typically read from the front to the back of a book. All they need is the ability to flip pages and place a bookmark here or there. While the electronic version of this is called an e-book, it is really more like an e-scroll because of the way you interact with it. It has very limited ability to navigate to different places in the book. Accordingly, Nancy Foasberg (2011) said that e-books "have many limitations for academic work. Most do not have the ability to copy and paste into another document, have limited note taking capabilities, and rely on navigation strategies that are most effective for linear reading."

Supporting her notion is the fact that when Northwest Missouri State University tested the Kindle and the Sony Reader, 40% of the subjects reported that they studied less (Young, 2009). Other research has shown that many students still prefer print over digital materials (Falk, 2011). Multiple schools (Northwest Missouri State University, Gettysburg College, and Princeton among others) have piloted e-reader technology and all reported similar issues (Young, 2009; Foasberg, 2011). Specifically the technology had some problems like battery life and page numbers that were not synchronized with the printed page (Young, 2009), and note-taking capabilities needed to be streamlined (Nelson & Harris, 2010).

Could it be that the printed book supported both pleasure reading and study, but digital books will require different formats? Rivero (2011) suggests that we need a shift in thinking about education. If that is so, what will the digital textbook look like and how will we convince students to adopt them?

One thing for sure is that the lack of adoption of e-textbooks isn't because the generation rejects technology. A recent study published by Coursesmart (a e-textbook company) reported that 52% of own an iOS or Android smartphone. Additionally, 76% would like to interact with their professor in class via twitter or Facebook! If they are so inclined to use technology, why have they not gladly accepted e-textbooks?

The models of content delivery are changing. It does seem inevitable that textbooks, built and designed for the traditional model of education, must adapt to the new possibilities. One difficulty is that the printed page is a near universal medium. Additionally, the technology of the pencil and paper for taking notes is near universal. The printed page is portable, sharable, and the "battery" never runs out. So far, technology has not brought the market together toward a universal replacement; it has divided it because there are so many companies vying for the top position. Each has created their platform for e-textbook delivery and note taking. Given that there are multiple professors who use textbooks from multiple publishers who offer the textbooks in multiple formats, it is no surprise that the market is segmented!

For example, John Wiley & Sons offers WileyFlex versions of their text that allow professors to customize the content and method of delivery available to the students. Kendall Hunt, McGraw Hill, and Prentice Hall all have similar offers where all the content they offer can be made available in print, or online. Flat World Knowledge was created by two individuals who left Pearson and McGraw Hill because they realized the market was shifting and they needed to prepare a whole new model of creating and sharing content with students (Pierce, 2011).

However, if the textbook had never been invented and you had a need today to educate someone, what technology would you use? No doubt, the answer is that it depends. It depends on the material, the professor, geographical locations, and many other factors.

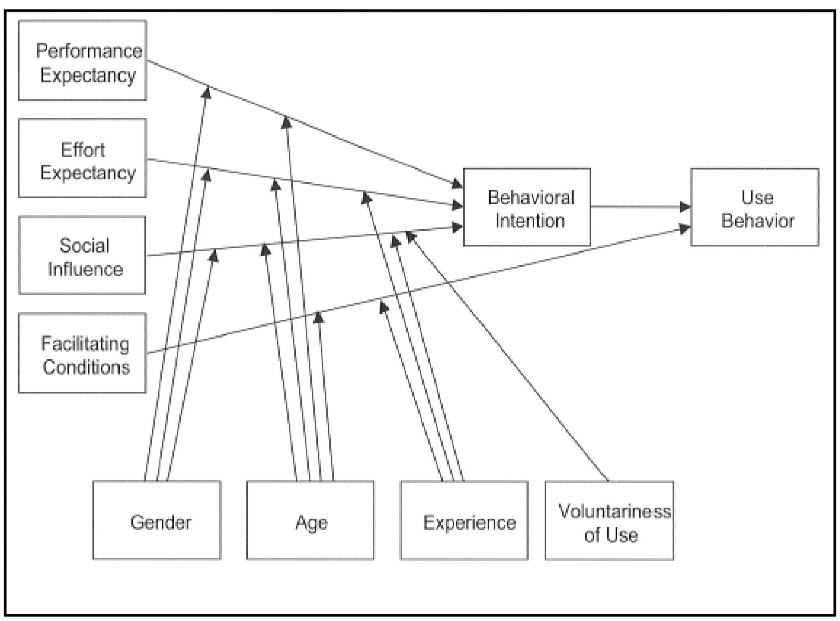

Figure 1: Unified Theory of Acceptance and Use of Technology.

Venkatesh et al. (2003) presented a model that would predict intentions and usage of technology. Their model, presented in Figure 1, is called the Unified Theory of Acceptance and Use of Technology (UTAUT). Individual decisions, as shown in this model, are very complex. Considering digital or print textbooks, it would be interesting to determine the appropriate questions to ask to predict intention and use. It is not the purpose of this study to examine the entire model, rather, this research specifically looks at the moderating factors of gender, age, and experience. Voluntariness of use is not considered because of the nature of the project. Students have to study. However, their choice in digital or print material is completely voluntary.

3. METHODOLOGY

As stated above, this study attempts to measure current student decisions when presented with print and digital e-textbook options. Gender, Age, and Experience will all be captured and measured against whether students chose an e-textbook or a hard copy of the book at the beginning of the semester. A Google form was created to capture data on these items to see if there was any correlation between the moderating items presented in the UTAUT and the decision students made earlier in the semester on the type of textbook they purchased.

Respondents came from two courses: an Introduction to Management Information Systems and a MBA level Management Information Systems. For the intro course, the selected text was Kelly Rainer's third edition of his introductory book, Introduction to Information Systems: Enabling and Transforming Business. This book was offered in four formats: new, used, e-text via CourseSmart, and online via WileyPlus. For the graduate text, George Reynolds book, Information Technology for Managers was chosen. Students had free choice to purchase new, used, or the CourseSmart version of the text.

Demographics.

It should be noted that this is simply a pilot study intended not to draw statistically significant conclusions from, but rather to find direction for future research. The response rate was very high. Of the 82 students contacted, 68 completed the survey yielding an 83% response rate. However, with this low of a n this research is intended to simply provide insight into relationships rather than statistical validation of models.

The average age of the respondents was almost 26 years old with 42% being male and 58% female. Students enrolled in the undergraduate introductory course made up 66% of the respondents. Participants were asked demographic questions (age, gender), e-reader ownership questions (ownership, length, use, etc.), e-textbook preferences, and finally the decision they made when they had the choice to purchase an e-textbook or a traditional print book.

Results

According to the model presented above (Venkatesh et al., 2003), age, gender, and experience are all moderating factors in the decision to use a technology or not. Pearson product moment correlations were generated to see if there was a relationship between these criteria and the decision to purchase print or digital textbooks. From this, future research will know better how to apply the UTAUT to the digital textbook revolution. Given that a correlation only shows a relationship, not causality, it is assumed that the model as presented above supports the causal model.

Age did not seem to play a large role. The correlation is negative (-0.129), but just barely. It seems that people of all ages are migrating to electronic medium for lots of their communication and entertainment. However, older generations were raised studying paper books and it does seem that as those generations age, they would still prefer the printed page. As younger generations begin college, this will likely become a non-issue in the determination of whether or not someone will adopt a electronic textbook.

Gender also does not seem to play a large role in whether or not someone chooses to purchase an electronic or print version of a textbook. A t-test showed no significant difference across gender in choice of textbook type at a 95% confidence interval.

The one item that did show a significant correlation was previous experience. However, it was not previous experience with a use of an e-reader. Correlation of those who owned e-readers to those who chose to purchase an electronic text was only a 0.06 correlation. However, those who had previously used an electronic textbook were showed a .41 correlation to those who chose to purchase the electronic version of the text. This is the most interesting finding of the study. It seems, then, that previous experience does not need to consider whether or not an individual owns an e-reader. Reading is a different experience than studying, and studying requires different navigational and notational tools than pleasure reading. For that reason, it is recommended that future research look deeper into the relationship between previous use and the format the text was offered in to determine the experiences that lend to digital adoption. From this, a series of research questions emerge.

1. Can skills be taught that will speed the adoption of digital texts?
2. Will subject matter make a difference in the tools used to educate tomorrow's generations?
3. Do digital textbooks require different study habits than print textbooks?
4. Will the segmented market replace the universal medium or will students develop the skills to adapt to any form of a digital textbook?

4. CONCLUSIONS

A convergence of technological changes has created a market where a new and exciting form of content delivery is now possible. Widespread broadband Internet access, and high-performance smart phones and tablets (specifically the iPad (Falk, 2011)) are always on and always with us. Processing speeds in mobile devices are more than adequate to handle mobile electronic textbook apps. Simply put, "E-books will become an important part of our future. The technology is emerging, highly dynamic, and has great potential when it comes to delivering up-to-date information" (Shiratuddin,2005). However, many end users, though frustrated with the antiquated models of the textbook of the past, still carry around old, heavy, textbooks. This and other research is moving toward a determination of whether if it is a lack user acceptance or if the technology hasn't yet created the replacement for the universal medium of the textbook. This research, at a very minimum, points to a strong relationship between previous experience with e-textbooks and future decisions to adopt them.

So where do we go from here? The real factor is not to determine whether or not students will adopt digital textbooks. Time and generations will no doubt go down this road. It is very evident that previous use needs to be positive, but which format provides this? This may require new study skills to finally transition from print to electronic textbooks. Therefore, research should focus on the specific items that influence decisions in this environment. Specifically this model, the UTAUT, seems to be the right model that will provide the appropriate questions that need to be asked in regard to e-textbook design and behavioral intention and use.

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CROSS BORDER MERGERS: NONPARAMETRIC MEASUREMENT OF FIRM EFFICIENCY

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ABSTRACT

Cross border mergers and acquisitions by Indian Firms have increased tremendously in the last decade. One of the reasons attributed to this increase is the quest for foreign technology and processes by an emerging market. However, does the shareholder gain in foreign acquisition? This paper uses nonparametric, Data Envelopment Analysis method to compare firm efficiency and the impact on domestic shareholder wealth prior to and after the merger. We find that there is no change in stockholder wealth as calculated by six measures of firm efficiency, dividends per share, operating margin, operating profit per share, return on capital employed, return on net worth and earnings per share, before and after the merger.

***Keywords**: Cross Border Mergers, Firm Efficiency, Data Envelopment Analysis*

1. INTRODUCTION

A combination of export growth and liberalization of foreign exchange rules have given firms in India some clout to expand through foreign acquisitions. The value of foreign acquisitions has increased from US$ 3.5 billion in 1995-96 (Prasad 2009) to over US$ 198 Billion in 2010 (Sivakumar 2011). Some of the reasons advanced for the rapid increase in the value of cross border acquisition, is the Indian quest for new technologies, processes and methods of production. All of these reasons result from the desire to improve firm efficiency. This paper looks at the ten biggest foreign acquisitions by Indian firms in the last decade for which data is available. We calculate firm efficiency and its impact on shareholder wealth using non parametric Data Envelopment Analysis for six different variables: dividend per share, operating margin, operating profit per share, return on capital employed, return on net worth and earnings per share. We find that there is overwhelming evidence of a lack in efficiency gains or any impact on domestic shareholder wealth before and after the merger/acquisition.

2. LITERATURE REVIEW

There is ample literature on the effect of shareholder wealth in domestic mergers and acquisitions (M&A). However, the literature on the wealth of domestic shareholders of the bidding firm in a cross border acquisition is not as substantial. Corhay and Rad (2000) found some evidence of positive gains for bidder firms in cross border acquisition for European firms, while Tebourbi (2005) found that the returns are significantly higher than for domestic bidders in the case of Canadian firms. Cummins and Weiss (2004) found similar results to that of Tebourbi (2005). They found that cross border acquisitions are value neutral for acquirers while acquisitions that were within borders were value destroying. Morosini, Shane and Singh (1998) used a novel approach to test whether cross borders acquisitions were more value enhancing than domestic acquisitions. They used Hofstede's (1980) four cultural dimensions and its scores to measure national cultural distance as a measure of foreignness and found a positive association between national cultural distance and cross border acquisition performance.

Fatemi and Furtado (1988) supported by Danboldt (1995) and found that the degree of market integration in imperfect markets could be a reason for value enhancement in cross border acquisitions. Markides and Ittner (1994) hypothesized that for international risk diversification to occur capital markets had to be less than perfectly integrated. Therefore, the specific gains were to accrue in a cross border acquisition largely depended on the degree to which capital markets were integrated.

While there is support for the hypothesis that target firms experience significantly higher wealth gains in comparison to purely domestic acquisitions when they are acquired by foreign bidders (e.g. Harris and Ravenscraft (1991), Swenson (1993), Danbolt (1999)), the effects on bidder values from international acquisitions remain unclear. Doukas (1995) reports small positive abnormal returns to acquirers in a sample of 463 cross-border acquisitions by US corporations between 1975 and 1989, but different samples that also incorporate non-US international mergers do not support those findings. Eckbo and Thorburn (2000) analyzed large Canadian corporations acquired by domestic and US-based bidding firms. They detect positive abnormal returns for domestic bidders, but no abnormal returns for US-based acquirers. Brealey et al. (1998) study a world-wide sample of 74 cross-border mergers from 1987 to 1992. They find that significant gains for target firms are accompanied by negligible abnormal returns for acquirers.

This paper looks at the gains in efficiency for Indian bidding firms that are trying to acquire a firm outside the geographical borders of India. It uses Data Envelopment Analysis (DEA) to find gains in stockholder wealth after the cross border acquisition.

3. METHODOLOGY AND RESULTS

"Data Envelopment Analysis (DEA) is a …….. 'data oriented' approach for evaluating the performance of a set of peer entities called Decision Making Units (DMUs) which convert multiple inputs into multiple outputs" (Cooper, Seiford and Zhu (2004)). The DEA efficiency score is calculated using two inputs and six outputs. The two inputs are expenses as a comparison of total sales and total expenses and are minimized in the optimization model. The six outputs are Dividend per share (DPS), operating profit per share, operating profit margin, Return on Capital Employed (ROCE), Return on Equity (ROE) and Earnings per share (EPS) and are maximized in the model. The measure of relative efficiency in our model is: Efficiency = (weighted sum of outputs) / (weighted sum of inputs). The data for the output variables was obtained from Yahoofinance.com and from moneycontrol.com. These were cross checked with individual company websites to ensure data integrity. The input data was obtained from the financial statements of each company in the year prior to and after the event. The study is limited to the top 10 cross border acquisitions made by India headquartered companies for which data was available. These are given in Table 1.

TABLE 1: TOP TEN CROSS BORDER ACQUISTIONS BY INDIAN COMPANIES

Acquirer	Target Company	Deal value ($ ml)	Industry
Tata Steel	Corus Group plc	12,000	Steel
Hindalco	Novelis	5,982	Steel
Videocon	Daewoo Electronics Corp.	729	Electronics
Dr. Reddy's Labs	Betapharm	597	Pharmaceutical
Suzlon Energy	Hansen Group	565	Energy
HPCL	Kenya Petroleum Refinery Ltd.	500	Oil and Gas
Ranbaxy Labs	Terapia SA	324	Pharmaceutical
Tata Steel	Natsteel	293	Steel
Videocon	Thomson SA	290	Electronics
VSNL	Teleglobe	239	Telecom

The outputs, dividend per share, operating profit per share, operating profit margin, return on capital employed, return on equity and earnings per share are designated as variables V_1, V_2, V_3, V_4, V_5 and V_6 respectively. The SOLVER function in EXCEL is used to obtain the DEA efficiency scores.

TABLE 2: PRE EVENT DEA SCORES FOR TATA STEEL

	V1	V2	V3	V4	V5	V6	E1	E2		
post event	15.5	119	39.61	27.7	29.95	72.7	-12	-10621	<=	0
pre event	13	106	38.88	43.7	35.94	63.4	-14	-9352.8	<=	0
normalize							13.9	9352.8	=	1
solution	0	0.01	0	0	0	0	0	0.0001		
obj fn	13	106	38.88	43.7	35.94	63.4				
z=	1									
(DEA score)										
constraints										
	LHS		RHS							
	-0	<=	0							
	-0	<=	0							
	1	=	1							

TABLE 3: POST EVENT DEA SCORES FOR TATA STEEL

	V1	V2	V3	V4	V5	V6	E1	E2		
post event	15.5	119.11	39.61	27.71	29.95	72.74	-12.05	-10621.38	<=	0
pre event	13	106.31	38.88	43.72	35.94	63.35	-13.94	-9352.78	<=	0
normalize							12.05	10621.38	=	1
solution	0	0.0084	0	0	0	0	0.0036	9.007E-05		
obj fn	15.5	119.11	39.61	27.71	29.95	72.74				
z=	1									
(DEA score)										
constraints										
	LHS		RHS							
	-2E-13	<=	0							
	-1E-13	<=	0							
	1	=	1							

Table 2 and 3 give the pre and post event DEA scores for Tata Steel's merger with CORUS. We see that the z-score in both cases is 1. This implies that there was no improvement in efficiency after the merger. At the same time it also implies that there was no loss of efficiency post event or the merger had no effect on the efficiency of the firm. This implies that in terms of stockholder wealth there were no changes in the efficiency of the six variables under consideration.

TABLE 4: PRE AND POST EVENT DEA SCORES

	ACQUIRER	TARGET COMPANY	PRE DEA SCORE	POST DEA SCORE
1	Tata Steel	CORUS Group PLC	1.0	1.0
2	Hindalco	Novelis	1.0	1.0
3	Videocon	Daewoo Electronics	1.0	1.0
4	Dr. Reddy's Lab	Betapharm	1.0	1.0
5	Suzlon Energy	Hansen Group	1.0	0.93
6	HPCL	Kenya Petroleum Refinery	1.0	0.31
7	Ranbaxy Lab	Terapia SA	1.0	1.0
8	Tata Steel	Natsteel	1.0	1.0
9	Videocon	Thomson SA	1.0	1.0
10	VSNL	Teleglobe	1.0	1.0

The results of the DEA analysis summarized in Table 4 reveal that for eight of the top ten mergers, there were no gains in efficiency, though two of the companies were more efficient before the acquisition. If one of the goals for the mergers were to increase shareholder wealth, then, this was not achieved.

5. CONCLUSION

We find evidence that cross border acquisitions do not have any impact on the shareholder wealth of bidding Indian firms. In some cases, however, there is wealth destruction. However, there are certain limitations. The small sample size tempers our conclusions. Also, there are limitations in DEA analysis. A choice of weights for a variable that is not related to the value of any input or output variable may cause the analysis to appear efficient. This does not however, affect our conclusion as we find some evidence of inefficiency.

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GENDER AND WHISTLEBLOWING IN COLLEGE: A LABORATORY EXPERIMENT

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ABSTRACT

This study examines the relationship between gender and actual whistleblowing behavior of students within anonymous and non-anonymous reporting channels. In a laboratory experiment students were confronted with a cheating situation during a test. Our findings show a high rate of students do report cheating, however, gender and reporting channel differences are not important factors when explaining actual student whistleblowing.

Keywords: *Whistleblowing, Student Cheating, Experiment, Gender*

1. INTRODUCTION

After entering the workforce, students will most likely encounter unethical behavior numerous times throughout their careers. Widespread financial scandals have directed attention to the influence of higher education on developing an awareness of the ethical decision-making process. Unethical behavior in academics is pervasive with the rate of cheating being reported as high as 70% (Brown and Choong, 2005; Klein et. al, 2006; Simkin and McLeod, 2010; Levy and Rakovski, 2006; McCabe, 1997; Smyth and Davis, 2004). Specifically within business programs, McCabe et. al. (2006) indicate that cheating is widespread and a growing problem.

In the workplace, organizations use whistleblowing mechanisms to encourage employee reporting of unethical behavior. Organizations create these whistleblowing systems with a wide range of features each of which is perceived to have certain economic costs and benefits (Dozier and Miceli, 1985; Gundlach et al., 2003; Hooks et al., 1994) and having an effective reporting system can be an important control mechanism to prevent and detect wrongdoing. Whistleblowing models have included individual (e.g., gender) and structural (e.g., anonymous versus non-anonymous) factors influencing the decision to report misconduct (Miethe and Rothschild, 1994; Moberly, 2006). Is it possible to utilize the lessons learned about whistleblowing in the workplace to increase peer reporting by college students?

Limited research examining student reporting behavior in an academic setting indicates that very few students are likely to blow the whistle if they observe cheating (Burton and Near, 1995; Sierles et al., 1988; McCabe et al., 2001; Rennie and Crosby, 2002; Simon et al., 2004). Research has often considered gender when examining ethically related behaviors but with mixed results (Miceli et al., 1991; MacNab and Worthley 2007). Studies that examined the influence of gender and reporting channel on whistleblowing have been survey-based using hypothetical workplace scenarios (Kaplan et al., 2009; Kaplan and Schultz 2007). In addition, all previous whistleblowing research reports on the likelihood that observers of misconduct will report and not on actual reporting behavior.

In this paper we report the results of a laboratory experiment that examines the relationship of gender on whether or not students actually report cheating within anonymous and non-anonymous reporting channels. This laboratory experimental design measuring actual whistleblowing behavior will provide a stronger basis on which to evaluate the relationships between gender, reporting channel and whistleblowing. The results of this study may be informative to academic policy makers who are interested in designing a reporting channel that will encourage reporting unethical behavior regardless of gender.

2. HYPOTHESIS DEVELOPMENT

Whistleblowing has been defined as a process (Dozier & Miceli, 1985; Gundlach, Douglas & Martinko, 2003). Organizations create whistleblowing systems with a wide range of features, each of which is likely to be perceived to have certain economic costs and benefits (Dozier and Miceli, 1985; Gundlach et al., 2003; Hooks et al., 1994). Rational choice theory suggests that whistleblowing is more likely to occur when the perceived benefits of reporting wrongdoing exceed perceived costs (Miethe and Rothschild, 1994; Dozier and Miceli, 1985). Benefits can include economic rewards such as promotions or intrinsic rewards such as the self-satisfaction of doing the 'right thing'. This paper focuses on perceived reporting costs such as loss of respect or the fear of retaliation. An effective whistleblowing process will reduce perceived costs of reporting by lowering pressures to remain quiet (Miceli & Near, 1988; Ayers & Kaplan, 2005). As noted by Simon et al. "reporting a case of academic dishonesty to an instructor is likely to be a highly stressful and potentially costly undertaking for a student" (2004, p. 78). Rennie & Crosby (2002) found that the fear of retaliation was one reason why medical students were less likely to report a peer's unethical behavior.

Research has often considered gender when examining ethically related behaviors but with mixed results (Miceli et al., 1991; MacNab and Worthley 2007). To the extent that reporting questionable acts is risky, Near and Miceli (1985) speculate that men might be more likely than women to report questionable acts as women conform to the pressure not to report. In the context of reporting misconduct, some research found females more likely to report questionable acts than males (Simon et. al., 2004; Kaplan et. al., 2009; Rothschild and Miethe, 1999). Other whistleblowing research found males more likely to report questionable acts (Miceli et al., 1991; Sims and Keenan, 1998; Miceli and Near, 1992). Several other studies do not find any significant association between gender and reporting (MacNab and Worthley, 2008).

Although the whistleblowing research has reported mixed results about the affect of gender on reporting, a cost/benefit analysis would indicate that females may consider reporting misconduct to be very costly due to the stress and fear of retaliation. In this study where the participants are required to make actual reporting decisions, emotional factors such as fear are likely to play an increased role (Kaplan and Schultz, 2007). Our hypothesis focuses on the expected gender differences in actual reporting behavior.

Hypothesis 1: In a laboratory experiment, the rate of reporting cheating will be different between males and females.

Providing different types of reporting channels is one mechanism companies have used to encourage whistleblowing and lower the fear of retaliation. Studies have argued that utilizing an anonymous reporting channel lowers perceived personal costs over using a non-anonymous reporting channel (Ayers & Kaplan, 2005; Kaplan & Schultz, 2007; Moberly, 2006). Relating to gender and personal costs, there are studies that lend some support to lower personal costs for females especially under an anonymous reporting structure. Kaplan et al. (2009) reports evidence that indicates females are more likely than males to report fraudulent financial reporting within an anonymous reporting channel. However, gender is not associated with reporting intentions using a non-anonymous channel. Based on the cost/benefit model, we expect that reporting misconduct will be highest in the anonymous reporting channel. Specifically,

Hypothesis 2a: In a laboratory experiment, females are more likely to report misconduct when using an anonymous reporting channel.

Hypothesis 2b: In a laboratory experiment, males are more likely to report misconduct when using an anonymous reporting channel.

Previous whistleblowing research is generally field-based or survey-based which limits the ability to control for various factors that may influence the reporting decision. More importantly, previous research has not explored the association between gender and reporting channel on what students will actually do when confronted with observing cheating. In this paper we report the results of a laboratory experiment that examines gender on actual reporting behavior of students within anonymous and non-anonymous reporting channels. Actual reporting behavior could be informative to academic policy makers who are interested in designing a reporting channel that will encourage reporting unethical behavior regardless of gender. Student participation in the ethical monitoring processes by reporting observed misconduct is an important control mechanism and can enhance the ethical culture of the institution.

3. METHOD

The purpose the laboratory experiment design was to examine the influence of two independent variables on the actual decision to report cheating (dependent variable). Independent variables were gender and reporting channel (e.g., anonymous or non-anonymous). The experiment was designed to control for other potentially influential factors and to maximize the probability that students (participants) taking a test would observe another student (confederate) cheating. The experimental situation was controlled by (a) providing the same test and rules to all participants, (b) selecting an obvious visual misconduct and (c) limiting cell size to four participants and one confederate. After the test, all participants completed a survey which provided them with the opportunity to report the cheating. The experiment was conducted three times with different participants during the same evening. This experimental design was approved by the College Institutional Review Board.

Participants were volunteer undergraduate business and accounting students in the researcher's accounting courses all at the same college. Students were offered the opportunity to earn 10-20 extra credit points for participating in an experiment. Students were told that the experiment would test math computation ability without reliance on calculators under a time constraint (pseudo-experiment). Participants were randomly assigned to rounds and treatment cells with each treatment cell limited to four participants and one confederate. An effort was made to also maintain the gender mix within treatments as much as possible with males as confederates.

At the beginning of each round, participants and confederates were instructed to read the test rules provided below:

Test Rules

- Do not start the test until instructed
- Do not use any mechanical device such as a calculator
- Stop the test when timer buzzes

The test rules were identical across anonymous and non-anonymous treatment cells. The 'Do not use any mechanical device such as a calculator' was stated to make a clear statement regarding what would constitute misconduct. In each treatment cell a researcher announced the start of the test, set a timer for five minutes and left the room.

To maximize participants' awareness of the misconduct, we chose a clear and visual violation. With only minutes left in the test, the confederate physically removed a calculator from his jacket to compute answers and replaced the calculator in his jacket before the test ended. At the end of the five minute math test, all participants completed a survey. In the anonymous reporting treatment participants were not asked to identify themselves on the survey while in the non-anonymous reporting channel treatment the student's alpha-character was required.

The survey included questions relating to demographics and to the pseudo-experiment on math computation ability (e.g. level of math courses, feelings about pressure under time constraints). The last question was the question of interest relating to the 'real' experiment on reporting misconduct; "Did you observe any rule violations during the experiment? If yes, please explain". The confederates were instructed to race through the questionnaire and leave the room as fast as possible to minimize possible discomfort to participants. Participants dropped their math test answer sheet and survey into a box and were directed to the debriefing area. Each participant was told that the true nature of the experiment was to examine factors influencing the decision to report cheating which required the researchers to hire a student to intentionally cheat.

4. RESULTS

Students volunteered to participate for a test where they were told that their math computational ability was being examined. Students were randomly assigned to anonymous and non-anonymous treatments cells prior to the test with similar gender proportions within each cell. Table 1 reports the final treatment size and gender of the 44 students that participated in the experiment.

Table 1: Treatment size

Reporting Channel	Gender		Total
	Female	Male	
Anonymous:	9	14	23
Non-anonymous:	7	14	21
Total:	16	28	44

Depending on the hypothesis, independent treatments are either gender or reporting channel with reporting action as the dependent variable. Fisher's exact univariate tests of independence were performed to test hypotheses with alpha of .05. Hypothesis 1 addresses whether gender is associated with reporting cheating. As shown in Table 2, although 75% of the females in the experiment reported misconduct compared to 57% of the males, participant gender is not significantly associated with reporting actions (p=.196).

Table 2: Percentage Reporting: Female vs. Male

	Reported Misconduct		
Gender:	Yes	No	Total
Female	12 (75%)	4 (25%)	16 (100%)
Male	16 (57%)	12 (43%)	28 (100%)
Total	28 (64%)	16 (36%)	44 (100%)

Fisher's Exact Test, P-value = .196, α = .05

Hypothesis 2 deals with the association between gender and reporting channel. Table 3 reports that 58% of females using the anonymous survey reported cheating compared to 42% using the non-anonymous survey. For males, 50% reported the cheating under either anonymous or non-anonymous reporting channel.

Table 3: Percentage Reporting: Anonymous vs. Non-Anonymous by Gender

	Reporting Channel		Fischer's Exact Test α = .05
Gender:	*Anonymous*	*Non-Anonymous*	*P-value*
Female	7 (58%)	5 (42%)	.608
Male	8 (50%)	8 (50%)	.648

Fisher's exact test does not indicate any significant differences between reporting channels for either females (p-value = .608) or males (p-value = .648) in the frequency of reporting cheating.

5. CONCLUSIONS AND LIMITATIONS

This study contributes to the existing whistleblowing literature by examining gender and reporting channel on a student's actual decision to report cheating. Unlike prior whistleblowing research assessing reporting intentions, this is the first study of which we are aware that examines actual reporting response to observed misconduct. Results show that student reporting in this experiment was not significantly different overall between male and female participants or under anonymous and non-anonymous reporting channels. Although previous research suggests that there are higher personal costs for reporting non-anonymously (Kaplan et al., 2009), perhaps in the context of this academic experiment personal costs of reporting such as fear of retaliation, social isolation, etc. were not differential factors in the reporting decision.

While this laboratory design breaks new ground testing actual reporting behavior in lieu of reporting intentions, we acknowledge that participant selection, and task can limit the ability of the finding to be generalized to other academic situations. The small size in this study was necessary in this laboratory experiment to maximize the likelihood of participants observing the confederate's misconduct and to manage individual debriefings immediately after the experiment given the students were deceived into thinking the experiment was about math. Another limitation is that volunteering to take a test is different from other academic testing or assignment situations where the task is a component of a course grade. Perhaps participants would have reported differently if the activity was a graded exam. Therefore, it is not clear to what extent peer reporting of cheating in this study is equivalent to other forms of academic misconduct.

These research findings have important implications for designing an academic reporting system. Based on the results of this study neither gender nor reporting channel influence the communication of misconduct. However, compared to other academic whistleblowing research (see Burton and Near, 1995; Sierles et al., 1988; Simon et al., 2004; Rennie and Crosby, 2002; Nuss, 1984), the overall rate of reporting in this study is extremely high (64%). In this study students were provided with a method for reporting misconduct and were asked to report any testing violations. It is possible the availability of an anonymous reporting channel and directly asking for information about unethical behavior might have increased reporting behavior. These interpretations as to the high reporting rates in this study emphasize the importance of academic institutions providing an effective method for reporting misconduct and frequently asking students about their ethical environment. The development of a reporting mechanism and actively requesting student involvement demonstrates an institutions ethical culture.

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A STUDY OF FIRM CHARACTERISTICS AND CORPORATE DISCLOSURE: AN EMPIRICAL ANALYSIS

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ABSTRACT

This paper examines empirically the corporate disclosure practices of listed non-financial firms in India. The study is based on sample of BSE 100 firms for the period of 2008-09 to 2010-11. An unweighted disclosure index with 74 reporting items were applied to sample firms. In the paper an attempt has been made to examine the quantum of corporate disclosure and its relationship with corporate characters such as size, profitability, leverage, listing status, shareholding pattern, audit firm, residential status of a firm, and age of the sample companies. To measure the association between the variables of the study pearson correlation matrix was used. Multiple regression analysis results indicates there is significant association exits among Listing status, promoters shareholding pattern, leverage, size of audit firm and profitability. However, no significant association was found among age, and residential status of the firm.

Keywords: *Corporate Disclosure, Disclosure Index, Firm-Specific Characteristics*

1. INTRODUCTION

Liberalization and Globalization of Indian economy has made more dynamic and transparent of Indian corporate sector. In India, the last two decade has experienced profound change in corporate financial reporting practices. The changes have occurred not only in the information content of annual reports, but also in presentation. These changes are driven by the additional disclosure requirements prescribed through amendments to the Companies Act, 1956; by considerably amending disclosure requirements under SEBI regulations; and by additional disclosure requirements stipulated in revised and new accounting standards. As a result of these changes, companies listed on stock exchange have been forced to disclose the minimum information in their annual reports as set out by the statutory requirements. However, particularly large and publicly traded leading companies have gone beyond those minimum requirements. Reporting information voluntarily has become a norm for large companies. Companies compete with an extensive amount of business information voluntarily to establish competitive advantage in the capital market. The disclosure of information is dependent on the characteristics of the firm. The study is an attempt to assess empirically the extent of corporate disclosure practices and influence of firm characteristics.

With this end in view, the rest of the sections are organized as follows: Section 2 presents the review of literature; Section 3 provides objectives of the study; Section 4 describes the methodology of the study and development of hypotheses; Section 5 finds out the results of the study; and Section 6 summarizes the findings and draws conclusion.

2. REVIEW OF LITERATURE

The section reviews some of the studies on the extent of corporate disclosure henceforth conducted since early 1960 in the various countries of world. Since, the 1960s there has been an increased interest in accounting disclosure studies investigating various determinants of companies' disclosure practices. Cerf, A.R. (1961) measured disclosure by an index of 31 information items and concluded that financial reporting practices of many US companies need improvement. Several researchers have replicated his methodology. The majority of these studies were applied to developed countries such as the UK Spero, L.L. (1979). , Firth, M. (1979), the USA Buzby, S.L. (1974). Lang, M., & Lundholm, R. (1993). Canada Belkaoui, A., & Kahl, A. (1978), Sweden Cooke, T. E. (1989), Switzerland Raffournier, B. (1995), Japan Cooke, T. E. (1992), and in Hong Kong Wallace, R. S. O. & Naser, K. (1995). Similarly, the present study concentrates on corporate disclosure practices of Indian firm and influence of the firm characteristics on it.

3. OBJECTIVES OF THE STUDY

The objectives of the study is to –

- To assess the level of corporate disclosure of listed firm in India.
- To measure empirically the association between firm characteristics and corporate disclosure levels of listed firm in India.

4 .METHODOLOGY OF THE STUDY

4.1 Sample selection:

The sample for the study was collected from the BSE 100 Index, reason behind selection of BSE 100 index was that includes the major sector firms of India. So sample can be considered as representative sample.

4.2 Computation of index

The annual report of firms were studied and differences were observed in the levels of information disclosed, which provided an important base for identifying the items of the disclosure index. These have also influenced the selection of the items in the index. Disclosure list used in the study by Meek et al. was also used extensively in this study. In all 74 items were included in the disclosure index. The disclosure index is developed using the information listed in disclosure checklist. The content of the annual report were examined & the scoring for the voluntary disclosure is done in the form of 1 & 0. If the disclosure item is present, then a score of (1) is given & if the item is not present then a score of (0) is entered as a score. The disclosure index of the sample firm developed for the year ended 31st March, 2008 to 31st March, 2010 of the sample firm.

4.3 Model Development:

In the present study to examine the impact of independent variables on the disclosure score of the firm the following Ordinary Least Square (OLS) regression model has been used.

$$\text{Disclosure Score} = \beta 0 + \beta_1 AGE + \beta_2 LIST + \beta_3 OWNER + \beta_4 LEV + \beta_5 AUDIT + \beta_6 RS + \beta_7 SIZE + \beta_8 PROFIT + €$$

Where

AGE = Age of the Firm
LIST = Listing Status of the Firm
OWNER = Ownership Structure of the Firm
LEV = Leverage of the Firm
AUDIT = Size of the Audit Firm
RS = Residential Status of the Firm
SIZE = Size of the Firm
PROFIT = Profitability of the Firm
β = Slopes of the independent variables
β_0 = Constant
€ = The error term

4.4 Variables of the Study and Development of Hypothesis:

The corporate disclosure literature suggests several attributes that influence the voluntary disclosure made by the firms. These factors are discussed below:-

4.4.1 Age

The resulted hypothesis is:
The age of the firm has a positive association with disclosure score.

4.4.2 Listing Status of a Firm:
The hypothesis is:
The listing status of a firm has a positive association with disclosure score.

4.4.3 Ownership structure
The hypothesis is formally stated as:
The management ownership has a negative association with disclosure score.

4.4.4 Leverage
The hypothesis of the study is as below.
The leverage of the firm has a positive association with disclosure score.

4.4.5 Size of the Audit Firm:
The hypothesis for the study is:
The size of the audit firm has a positive association with disclosure score.

4.4.6 Residential Status of a Firm:
The following hypothesis has been formulated and tested in this study.
The residential status of the firm has a positive association with disclosure score.

4.4.7 Size of the Firm:
The following specific hypotheses have been tested regarding size of the firm:
The size of the firm has a positive association with disclosure score.

4.4.8 Profitability
The following specific hypotheses have been tested regarding profitability of the firm:
The profitability of the firm is positively associated with disclosure score.

5. EMPIRICAL ANALYSIS

5.1 Multiple Regression Analysis
A regression analysis has been run to measure the association between dependent and independents variables of the study. Regression has been used in much previous research (Roef Abur, 2010, Aktaruddin, M. et al., 2009; Apostolos, K. et al., 2009; Hossain and Hammami, 2009 HongxiaLi & Ainian Qi, 2008; Lim, S. et al., 2007; Mahajan and Chander (2007), Barako, D, G. et al., 2006; Da-Silva and Christensen, 2004; Gerald and Sidney, 2002; Owusa-Ansah, 1998; Wallace & Naser, 1995; Wallace et all., 1994). Three separate determinants of firm size (sales, total assets, and market capitalization) as well as three different measures of profitability (ROCE, RONW, and ROS) were used. Each surrogate to represent size and profitability was used only once in a model. This led to the creation of 9 regression equations.

All nine models of regression ownership structure was positively found to be significant at 1 % level. But audit firm size was negatively found significant in all nine model of regression at 1% level of significant. This result is similar to that of Mahajan and Chander (2007). Listing status of firm were found significant at 5% level of significant in equation no. 1,4,5, and 7 where as in equation no. 2,3,6,8, and 9 it found significant at 10% level. Leverage of the firm found negatively correlated with corporate disclosure of the firm at 1%, level of significant in equation no. 2, 3, 6, 7, 8 and 9, while it found significant at 5% level in equation no. 1 and 4 and in equation no. 5 it found significant at 10% level. ROCE was significant at 1% level when applied in combination with all surrogates of size. Other profitability surrogates could not significantly explain variations in the corporate disclosure level. Market capitalization was found significant (equation no. 6) at 10% level when append in the combination of ROS. While in equation no. 7 total assets was found significant at 10% level in the combination of ROCE. Sales were found significant in equation no. 1 with the combination of ROCE.

So, out of 9 models, the model, which is satisfying validity requirements and having improved adjusted R^2 has been chosen and selected as a valid model. Out of 9 models 2 models were found which satisfying validity requirements and having improved adjusted R^2. The model with combination of Age, listing status, ownership structure, leverage, audit firm size, residential status, sales, and ROCE (measure of profitability), has 55.00 (Adjusted R^2), F value is significant at 0.00 level of significance and DW is 2.088. The second model were with the combination of Age, listing status, ownership structure, leverage, audit firm size, residential status, total assets, and ROCE (measure of profitability), has 54.3 (Adjusted R^2), F value is significant at 0.00 level of significance and DW is 2.091. In these two model listing status of firm, ownership structure, leverage, audit firm size, size of firm (sales and total assets) and ROCE is found to be significant. The adjusted R^2 values suggest that a significant percentage of the variation in corporate disclosure score can be explained by the variations in the whole set of independent variables. It is clear form the analysis of regression results that larger the firm size (sales and total assets) disclose more information and it is also found significant. So our hypothesis is accepted in favour of that size of the firm has a positive association with disclosure score. The regression results for firm size by total assets are insignificant which similar with Chow and Wong (1987). This is significant with Mahajan and Chander (2007); Hossain and Hammami,(2009), Despina et. al. (2011). ROCE explains more significant variations in corporate disclosure index of firm among the profitability measures. So, it can be concluded that ROCE has a positive impact on corporate disclosure of the firm. This result is similar to that of Hossain and hammami,(2009) ; Kusumawati, D.N, (2006); Leventis and Weetman,(2004). On other hand it is found that RONW and ROS have no any significant impact on disclosure level of the firm.

The firm is listed in international stock exchanges and the firm audited by the big four firm of auditor, disclose more information than others. So, hypotheses are accepted with both the variables that listing status of firm and audit size of the firm has positive impact on the disclosure level of the firm. The leverage of the company has negative significant association with disclosure level of the firm. It indicates that firms having more debt have policy of disclosing only mandatory information because the firm disclose maximum information when they have more share capital. The residential status of a firm has negative insignificant association with disclosure of the firm. Form the results it can be concluded that the Indian firm have to comply with legal provisions of Indian rules so it disclose more information than foreign firm. On the other hand, it is found out that firm age have no effect on mandatory disclosure level this results is similar to the result of Despina et. al.(2011).

6. CONCLUSION

This research is an extension of previous research where a set of variables is considered to examine their association with the level of corporate disclosure. The objective of this study was to examine firm characteristics and their influence on corporate disclosure. These factors include Age of the Firm, Listing Status of the Firm, Ownership Structure of the Firm, Leverage of the Firm, Size of the Audit Firm, Residential Status of the Firm, Size of the Firm and Profitability of the Firm. In particular, the study aimed to determine which of these factors were significantly related to increased corporate disclosure. The study used the disclosure index to measure corporate disclosure on a sample of 81 listed non financial firm of India. The results of the study indicate that the extent of corporate disclosure within the sample firm varies within 6% to 72 % (approximately) for the period of study. It implies that though all the firms disclose mandatory information as required by law, but at the same time, a large number of firms disclose more than required by legal provisions. These firms are globally recognized and have overseas operations too. These firms are also known for maximization of the shareholders wealth. That is why these companies try to be more transparent in the eyes of domestic as well as foreign investors and have better disclosure level. It has also been observed that the extent of corporate disclosure is influenced by listing status of the firm, ownership structure, leverage of the firm, size of the audit firm, size (as measured by total assets, sales and market capitalization), and profitability (as measured by return on capital employed). The companies with large assets size, higher profitability, higher leverage, listing in foreign stock exchanges, lower holding of promoters share and audited by big audit firms have tendencies to be more transparent and hence disclose more information. However, age of a company and residential status do not significantly influence the level of corporate disclosure.

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MULTIPLE REGRESSION RESULTS

Variables	1	2	3	4	5	6	7	8	9
Constant	0.255	0.294	0.305	0.259	0.268	0.27	0.251	0.27	0.297
	5.319*	6.115*	6.376*	4.404*	4.471*	4.518*	4.387*	4.449*	5.061*
Age	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.911	1.102	1.112	0.963	1.078	1.066	0.71	0.841	0.87
Listing Status	0.033	0.028	0.027	0.038	0.032	0.031	0.033	0.028	0.027
	2.004**	1.679***	1.636***	2.297**	1.909**	1.872***	2.041**	1.666***	1.653***
Ownership Structure	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.001
	3.534*	4.564*	4.56*	3.164*	3.895*	3.915*	3.22*	4.096*	4.131*
Leverage	-0.012	-0.014	-0.015	-0.011	-0.013	-0.014	-0.012	-0.014	-0.015
	-2.346**	-2.773*	-2.908*	-2.16**	-2.542***	-2.65*	-2.371*	-2.753*	-2.896*
Audit Firm Size	-0.052	-0.049	-0.049	-0.056	-0.054	-0.054	-0.054	-0.051	-0.05
	-3.279*	-3.021*	-3.025*	-3.469*	-3.234*	-3.249*	-3.368*	-3.102*	-3.076*
Residential Status	-0.031	-0.011	-0.006	-0.029	-0.014	-0.011	-0.019	-0.003	0.004
	-1.198	-0.422	-0.234	-1.105	-0.515	-0.415	-0.735	-0.119	0.14
Market Capitalization				0.01	0.01	0.011			
				1.504	1.491	1.637***			
Sales	0.011	0.007	0.007						
	2.064**	1.352	1.337						
Assets							0.011	0.01	0.008
							1.766***	1.502	1.219
ROCE	0.002			0.002			0.002		
	3.925*			3.537*			3.725*		
RONW		0.00			0.00			0.00	
		1.107			0.906			1.226	
ROS			0.00			0.00			0.00
			-0.161			-0.415			0.008
R^2	0.569	0.536	0.533	0.564	0.537	0.535	0.562	0.533	0.529
Adj R^2	0.55	0.517	0.513	0.546	0.518	0.516	0.543	0.513	0.509
F (Sig)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DW	2.088	2.084	2.099	2.087	2.072	2.082	2.091	2.075	2.096

*, **, and *** significant at 1%, 5% and 10% level respectively.

A STUDY OF SHAREHOLDERS VALUE CREATION: AN EMPIRICAL ANALYSIS

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ABSTRACT

This study examines the shareholder's value creation in the Indian petroleum industry. Indian petroleum industry is dominated by public sector firm and private sector firm. The real owners of business are equity shareholders. Equity shareholders invest their money in equity shares of a company with the primary motive of achieving good capital appreciation and regular & stable return (i.e., dividends). The investors' objectives are purely based on overall performance of the company. So, investors before taking their investment decisions, they consider several factors which influence the corporate performance. In the present study to analyse the performance of the company we have divided petroleum into public sector firm and private sector firms. We have used EVA, MVA, NOPAT, PAT, Market Capitalization and EPS data provided by CMIE Prowess database for the period of 10 years (2001-02 to 2010-11). For each of the 07 companies, we have calculated the 10-year correlation between EVA of each year and each year's MVA, NOPAT, PAT, EPS and Market Capitalization. To test hypothesis in the present research t test applied. EVA has been found to have significant correlation with OP, NOPAT, EPS, Market Capitalization and MVA figures of firms of both the sectors. In the study period both the sector has created positive EVA and MVA.

Keywords: *EVA, MVA, Shareholders' Value*

1. INTRODUCTION

The primary objectives of any organisations are to maximize profit and maximise shareholders wealth. To measure shareholders wealth various traditional and modern measure are among them Economic value added is a powerful new management tool which is considered to be important source of corporate governance. It is an alternate performance measurement technique which is used to overcome the limitation of traditional measurement criteria by correlating with shareholder's wealth and action of a company's manager. Various performance measurement criteria have been adopted by corporate entities, among accounting profitability measures include ROI, ROE, EPS, ROCE and DPS etc., Shareholders valued based measures include EVA and MVA. The main aim of every corporate management is to maximise its shareholder's value and value of business. There are a number of value based management (VBM) frameworks, shareholder value analysis (SVA) Rapport (1986) and Economic Value Analysis (EVA) developed by Stern Stewart (1990) is the two well-known ones. From past few years EVA has emerged as a new way to measure financial performance of highly reputed corporation like Coca-cola, AT&T, Quaker, Oats and Briggs and Stratton have set up EVA measurement system throughout their organisation. Economic value added is considered to be tool for measuring corporate performance not only for evaluating performance of companies out also for determination of incentive pay. It tries to cope with the tension that exists between the need to come up with a performance measure which is correlated with shareholder's wealth and at the same time less subject to random fluctuations in stock prices. EVA is a rupee amount rather than a ration remaining after capital charge or cost of capital is deducted from the amount of operating profits. It also provides a roadmap to the ultimate goal of improving Market Value Added (MVA).

2. LITERATURE REVIEW

KPMG-BS Study (1998) assessed top companies on EVA, sales, PAT (Profit after Tax), and MVA criteria. The survey has used the BS 1000 list of companies using a composite index comprising sales, profitability and compounded annual growth rate of those companies covering the period 1996-97. Sixty companies have been found able to create positive shareholder value whereas 38 companies have been found to destroy it. Accounting numbers have failed to capture shareholder value creation or destruction as per the findings of the study. 24 companies have destroyed shareholder value by reporting negative MVA.

Anand, et.al. (1999) revealed that EVA, REVA (Refined Economic Value Added) and MVA are better measures of business performance than NOPAT and EPS in terms of shareholders' value creation and competitive advantage of a firm. Since conventional management compensation systems emphasize sales / asset growth at expense of profitability and shareholders' value. Thus, EVA is a measure that shifts focus on an organizational culture of concern for value.

Banerjee and Jain (1999) examined the relationship between shareholder wealth and certain financial variables. This study was conducted with a sample of top 50 companies from Drugs and Pharmaceutical industry. This study concluded that out of select independent variables, EVA has proved to be the most explanatory variable and the capital productivity is a predictor of shareholder wealth.

Madhu Malik (2004) examined the relationship between shareholder wealth and certain financial variables like EPS, RNOW and ROCE. By using correlation analysis, it was found that there was positive and high correlation between EVA and RONW, ROCE. There was a positive but low correlation between EVA and EPS. By using co – efficient of determination (r2), EVA was compared with Traditional performance measures and it was found that not a single traditional performance measure explains to the fullest extent variation in shareholder wealth.

Panigrahi (2005) examined how the Economic Value Added (EVA) is superior to Market Value Added (MVA). This has been examined by financial performance of ITC Ltd, which has adopted the EVA as its performance measurement. This study found that by increasing Economic Value Added (EVA), Shareholder Wealth is created and established the fact that the Economic Value Added (EVA) is superior to the Market Value Added (MVA).

Bhayani (2006) studied economic value added of Cholamandalam Investment and Finance Co. Ltd for the period of 1998-99 to 2002-03. The company has been successfully able to create value for its shareholders. The company's earnings are much higher than the overall cost of capital. The traditional performance indicators are showing quite high values of ROCE, EPS growth as compared to EVACE. It is observed that the traditional parameters indicated quite a rosy and healthy picture of the company during all five years of the stuffy.

Kaur and Narang (2009) in his study an attempt has been made to explain the application of EVA for selected companies. The sample for the study was top 205 companies has been selected form BT-500 India's most valuable companies. The study period was of 12 years (1995-96 to 2006-07). The results of the study indicate negative EVA for eight years consecutively.

Chauhan and Bhayani, (2010) has examined the impact of mergers on shareholders value creation in Indian industry. This study includes companies which have undergone merger during the period 1st April, 1999 – 31st March, 2000. , There are about 196 merged companies in India during above period and we have selected 56 firms for the research to examine pre and post merger performance of firms covered under the study. The result suggests that firm's shareholders value creation is highly dependent on Operating expenses, Profit margin, ROCE and Expense ratio. The inter company and inter industry analysis results indicate there is no positive impact of mergers on shareholder value creation.

Khatik and Singh, (2010) studied economic valued added in 10 selected companies of India for the period of 1998-99 to 2007-08. The results of the study indicate there are no any uniform EVA trends in selected firms.

Sharma and Kumar (2010) have analyzed effectiveness of Economic Value Added in selected companies for the period of 2001-02 to 2008-09. Researcher has used traditional measures along with EVA to measure effectiveness of the firm. The result of statistical tools reveals that except few majorities of the sample companies are able to continuously create value for their shareholders during the study period. The study finds that EVA is gaining popularity in India as important measures of firm performance.

Sakthivel (2011) analyzed shareholder's value in Indian pharmaceutical industry for the period of 1997-98 to 2006-07. It is concluded that the companies under pharmaceutical industry has succeeded to meet public expectations in terms of shareholders' value creation through EVA either by increasing operating income from assets in place through reducing cost of production or increasing sales, or reducing the cost of capital by changing the financing mix in capital structure. This study showed that shareholders' value creation tend to go up every year for pharmaceutical industry since 2000-01.

The detailed review of literature indicates that very few studies have been conducted in India to study the shareholders value creation. It is very clear from the above literature in India no industry specific study has been conducted to examine the trend of shareholders value creation. At present India is the fastest developing economy in the world. In India during the last decade petroleum industry has got prominent importance, because of the development of our economy is became dependent on petroleum industry. Indian petroleum product consumption has increased day by day and we are dependent on imported petroleum product. So, researcher has conducted present research on petroleum industry of India and tried to study the shareholders value creation in it.

3. OBJECTIVES OF THE STUDY

The primary objectives of the study are as under:

- To examine the concept of shareholders value creation and value based management.
- To analyze the trend and growth of shareholders' value in Indian Petroleum Industry in terms of EVA (Economic Value Added) and MVA (Market Value Added) .
- To study the correlation between EVA with OP, NOPAT, EPS, Market Capitalization and MVA.

4. METHODOLOGY OF THE STUDY

4.1 Research Hypotheses

The following hypotheses have been laid down for the present study:

H1: Indian Petroleum Industry does not create any EVA.
H2: There is no difference between average values of EVA of both the sector of petroleum industry, public as well as private.
H3: There is no correlation between EVA and OP, NOPAT, EPS, Market Capitalization and MVA.

4.2 Sources of Data:

This study is based on the secondary data. To analyze the trend and growth of value addition in terms of EVA, and MVA in Indian Petroleum Industry, Required financial data of sample companies were collected from ***"Prowess****" Database of Centre for Monitoring Indian Economy (C.M.I.E.),* and from published annual reports of companies.

4.3 Sample Design:

There are 19 petroleum firm are listed on BSE in public and private sector of India. All 19 listed firms consider as universe of the study. Out of 19 firms only 07 firms required data were available for ten years (2001-02 to 2010-11), so these firms have been selected for the purpose of the study. Thus, the sample consists of 03 public sector petroleum firm and 04 private sector petroleum firm.

4.4 Tools of Data Analysis:

For analyzing the trend and growth of value addition in terms of EVA, and MVA in Indian Petroleum Industry, the present study used statistical tools like mean, standard deviation, correlation, chi-square test and 't' statistic for analyzing the financial data of sample petroleum firms.

5. EVA ANALYSIS

EVA analysis is presented for sample petroleum firms below. Thereafter, inter sector comparison and correlation analysis of EVA and other related measures are elaborated.

The average amount of EVA created by public sector petroleum firms during the period of study has been Rs. 3034.15 cr. The Indian Oil Corporation (IOCL) reported the highest average EVA (Rs. 6249.22 cr) followed by the Bharat Petroleum Corporation Ltd. (BPCL) (Rs. 1473.11 cr) and the Hindustan Petroleum Corporation Ltd. (HPCL) (Rs. 1380.10 cr). Only IOCL created EVA above the average of entire public sector group. As far as variability of EVA for ten years are concerned, Bharat Petroleum Corporation Ltd. (BPCL) reported the highest inconsistency as evident by the highest Coefficient Variation (CV) (89.45%), the lowest positive CV (44.79 %) is reported by IOCL. It indicates that there is uniformity in EVA in ten years in case of IOCL as compared to other petroleum firms in the public sector. The year 2009-10 may be considered as successful year for the sector because public sector petroleum firms reported the highest average EVA (Rs. 5172.89 cr). While the year 2008-09 is considered the worst year from the shareholders point of view, because public sector petroleum firm generated the lowest EVA (Rs. 449.20 cr) at an average.

The variability in the performance of public sector petroleum firms in creating EVA over the period of analysis has been fairly low (average of firm-wise CV being 49.92%). On the other hand, variability among EVA figures year-wise has been much higher (average of year wise CV being 97.60%). This phenomenon may be because of the high degree of size variation among the sample petroleum firms.

The average EVA of selected private sector petroleum firms for study period was Rs. 4622.58 cr. Three petroleum firm reported positive average EVA value for ten years while, EOL reported negative average EVA value for ten years of study period. The RIL reported the highest average EVA value (Rs. 17558.20 cr) followed by the MRPL (Rs. 648.64 cr) and the CPCL (Rs. 432.19 cr). Essar oil Ltd. not only reported the least average EVA (Rs. -148.69 cr), but also reported negative EVA in three years (2004-05, 2005-06, 2006-07, 2008-09 and 2009-10). Year-wise performance of private sector petroleum firm in this regard has been considerably better in the later two years (2009-10 and 2010-11) as compared to the former ones. Petroleum Firm-wise average of EVA for the period has shown fairly low (CV being 63.80%), while year-wise EVA average has been fairly high consistency (average CV being 192.98.).

5.1 Inter-Sectoral Comparison of EVA

The public sector petroleum firms EVA (Rs.3034.15 cr) is less than that of the private sector petroleum firms (Rs. 4622.58 cr). Year-wise comparison between averages EVA of the petroleum firms in two sectors portrays consistent out-performance of private sector petroleum firms over the public sector ones.

The trend ratios of EVA, when compared for the two sectors, highlight a major decline in public sector figure against a substantial rise in that of private sector. This situation was mainly due highest average EVA value of Reliance Industries Ltd. in private sector. While on other hand public sector petroleum firm average EVA value were consistent as compared to private sector petroleum firm. The average trend ratio of private sector petroleum firm and public sector petroleum firm were 468.91 and 255.27 respectively.

On observation it is revealed that there is significant difference between mean value of EVA of both public and private sector since the calculated value of t during the entire study period is higher than the critical value at 5"10 level of significance except year 2001- 02. Hence, the null hypothesis is rejected. In the year 2001-02 it can be inferred that there is no significance difference in the value of EVA in the public sector and private sector of petroleum firm.

6. MVA ANALYSIS

MVA figures for the public sector petroleum firms under study. It is reveals from the table; the average amount of EVA created by public sector petroleum firms during the period of study has been Rs. 7669.16 cr. The Indian Oil Corporation (IOCL) reported the highest average MVA (Rs. 17191.81 cr) followed by the Bharat Petroleum Corporation Ltd. (BPCL) (Rs. 4322.63 cr) and the Hindustan Petroleum Corporation Ltd. (HPCL) (Rs. 1493.03 cr). Average MVA value of IOCL was higher than the average of entire public sector group. Looking to the variability of MVA for ten years are concerned, Hindustan Petroleum Corporation Ltd. (HPCL) reported the highest inconsistency as evident by the highest Coefficient Variation (CV) (235.79%), the lowest positive CV (61.92%) is reported by Bharat Petroleum Corporation Ltd. (BPCL). The coefficient of variation of IOCL is 83.07. In the year 2003-04 public sector petroleum firm have created highest average MVA (Rs. 17636.98 cr) and in the year 2008-09 public sector petroleum firms have created lowest average MVA (Rs. 693.69 cr).

The variability in the performance of public sector petroleum firms in creating MVA over the period of analysis has been fairly low (average of firm-wise CV being 75.88%). On the other hand, variability among MVA figures year-wise has been much higher (average of year wise CV being 123.36%). This may be because of the high degree of size variation among the sample petroleum firms.

Average MVA of selected private sector petroleum firms for ten years, i.e., from 2001-02 to 2010-11 is of Rs. 29802.24 cr. Reliance Industries reported highest average MVA of Rs. 108869.92 cr and followed by Essar Oil by Rs. 5424.78 cr. The average MVA of CPCL was Rs. 128.06 cr, which is lowest among all the sample firms. Year-wise performance of private sector petroleum firm in this regard has been considerably best in the year 2007-08. The last five years study period average MVA value was higher than sample firms' average. Petroleum Firm-wise average of MVA for the period has shown very high (CV being 82.98%), while year-wise MVA average has been fairly low (average CV being 1.84%).

6.1 Inter-Sectoral Comparison of MVA

Public sector petroleum firms MVA (Rs.7669.16 cr) is higher than that of the private sector petroleum firms (Rs. 4147.99 cr). Year-wise comparison between averages MVA of the petroleum firms in two sectors portrays consistent out-performance of public sector petroleum firms over the private sector ones.

The trend ratios of MVA present in the chart. It is clear from chart that trend of MVA of private sector petroleum firms is highly improved from the year 2005-06 as compared to public sector petroleum firm. The average trend ratio of private sector petroleum firm and public sector petroleum firm were 3020.48 and 626.83 respectively.

It is revealed that in the first two years of the study period null hypothesis accepted it means no significance difference in the mean MVA value of public sector petroleum firm and private sector petroleum firm. In last eight years of study period (2003-04 to 2010-11) the calculated t value is higher than critical value so null hypothesis is rejected and it can be inferred that there is significance difference in the mean value of MVA in the public sector and private sector of petroleum firm.

7. CORRELATION ANALYSIS BETWEEN EVA AND SELECTED MEASURES

Correlations between EVA and OP for both public and private sector petroleum firms have been high and positive (coefficient being 0.957 and 0.997, respectively). In case of correlation of EVA with NOPAT, however, high positive correlation has been found for both public sector and private sector petroleum firms 0.99 in both the sectors.

Correlation between EVA and EPS in both the cases (0.708, and 0.859, respectively) has been high correlation. Similar has been the case regarding correlation between EVA and market capitalization (correlation coefficient being 0.989 and 0.995, respectively). This may indicate market capitalization has been highly sensitiveness to EVA creation. Correlation of coefficient of EVA and MVA in private sector is very high but in public sector petroleum firm it is law as compared to private sector firms.

8. CONCLUSION

The present study reveals positive EVA and MVA creation by the Indian petroleum Industry, both by public and private sector firms. EVA has been found to have significant correlation with OP, NOPAT, EPS, Market Capitalization and MVA figures of firms of both the sectors. This may lead to the following conclusions for further deliberations:

- Performance of the Indian Petroleum Industry may be termed as satisfactory regarding shareholder value creation over the years during study period.
- It is also found that the private sector petroleum firm's trend of EVA and MVA was higher than public sector petroleum firm.
- EVA, and MVA which are considered to be an effective indicator of shareholder value creation, is also highly sensitive associated with the market capitalization of firm and market value added in both sectors.

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LEADERSHIP STYLE AND ENVIRONMENTAL CHANGES: THE LEBANESE CASE

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ABSTRACT

During the past thirty five years Lebanon experienced significant political and economic changes, i.e., from 1975 to 2011. The country was engaged to continual adaptation to changing environmental conditions and circumstances. In this paper the researcher studies the changes in the leadership styles of Lebanese entrepreneurs as a result of the economic progress and political developments. Two research questions were raised. The purpose of the first one is to determine if the "Current Generation" of managers had the same work values and leadership styles as those of the "Older Generation". The second question considers the importance that the respondents assigned to three areas: Individualism, Collectivism, and Confucianism. Individualism was measured by the importance assigned to self-sufficiency and personal accomplishments. Collectivism was measured by the willingness of people to subordinate personal goals to those of the work group with emphasis on sharing the benefits. In addition, Confucianism was measured by the importance the respondent assigned to social harmony, and ethical behaviour.

The researcher used semi-structured interviews. Three institutions were studied: An American University (an educational institution), a family owned textile manufacturing company (an industrial firm), and a local bank (a service type organization). All these institutions were located in Beirut, Lebanon. The sample selected was divided into three groups. The first group includes four people in the middle and upper management group from each institution who have served the company for a minimum of thirty years (the war and the post war period). The second one is made of four people from each organization who have served the company for fifteen years or less (the post war period), and the third group includes four people who have managed the organization during the last five years or less (the current period).

After reflecting on the information gathered from the interviews, it was noted that the leadership styles used changed according to the type of institutions studied and with the changes in the political and economic environment. The new generation group (group three), i.e., the current managers exhibited a significantly higher concern for individualism coupled with directive or autocratic leadership style than did the other two older generation group in the three institutions. In addition, the older generation group (group one) used distributive and participative leadership coupled with low confucianism in the industrial firm and the service type organization but a high concern for ethical behaviour (Confucianism) in the educational institution. The older generation group used work-centered behaviour coupled with a protective people-centered concern, i.e., paternalistic leadership. Similarly, group two exhibited a lower concern for collectivism than group one. The strong team spirit, which prevailed during the war period, did not continue during the post war period. The leadership style was transformational, officially distributed between the people and focusing on task accomplishment.

1. INTRODUCTION

Lebanon experienced significant political and economic changes, i.e., from 1975 to 2011. The country and the people experienced continual adaptation to changing environmental conditions and circumstances. The country faced a major political crisis, the civil war, which started in 1975 and lasted a devastating sixteen years. During that period, some institutions, with the leadership of dynamic leaders were able to grow and survive. In addition, Lebanese organizations had to face and adjust to the recent global economic crisis and the political instability in the neighbouring Arab countries called "the Arab Spring".

The aim of this research work is to study the changes in the internal culture and leadership style of Lebanese entrepreneurs as a result of the economic progress and political developments. Two research questions were raised. The purpose of the first one is to determine if the "Current Generation" of managers had the same work values and leadership style as those of the "Older Generation". The second question considers the importance that the respondents assigned to three areas: Individualism, Collectivism, and Confucianism. Individualism was measured by the importance assigned to self-sufficiency and personal accomplishments. Collectivism was measured by the willingness of people to subordinate personal goals to those of the work group with emphasis on sharing the benefits. In addition, Confucianism was measured by the importance the respondent assigned to social harmony and ethical behaviour.

2. LITERATURE REVIEW

Leadership is the process of influencing people to direct their efforts toward the achievement of some particular goal or goals (Luthans and Doh, 2012). "It is the process by which an individual exerts influence over other people and inspires, motivates, and directs their activities to help achieve group or organizational goals" (Jones and George, 2011, p.427). It is frequently credited or blamed for the success or failure of business organizations (Kanter, 2011). Leadership styles and practices that work well in one period of time or one culture are not necessarily effective in another (Gilmour, 2002).
Leadership is a continuum of different leadership styles. However, most research on the subject focuses on the degree to which a leader's style display concern for the task to be accomplished (job-centered) and/or concern for the people doing the work (relationship orientation) (Schermerhorn, 2002). The researcher divides the different leadership styles into four basic categories. The first one is the Directive or autocratic with high concern for task and a low concern for people. The second is the Participative one with high concern for task and high concern for people. The third one is the Supportive or human relation with low concern for task and high concern for people. The fourth one is the Laissez-faire with low concern for task and low concern for people (Durbin, 2001; Luthans and Doh, 2012). Studies have shown that participative leadership style may be more common and more effective during difficult times.
Different theories were developed regarding the definition of culture (Ogbonna and Harris, 2002; Goffee and Jones, 1998; Jones and George, 2011). Four types were identified: the Fragmented culture with low sociability and low solidarity, the Mercenary culture with low sociability and high solidarity, the Communal culture with high sociability and high solidarity, and the network culture with high sociability and low solidarity. Sociability or collectivism measure the degree of friendliness among people and Solidarity or social cohesion measure the degree of focus on the achievement of common goals.
Similarly, culture and leadership are linked together because leaders create cultures when they create groups and organizations (Day, Harris, Hadfield, Tolley, and Beresford, 2000; Boomer, 2007). In addition, culture can define what people or organizations are: why they need to do what they do and with whom they communicate (Robbins, 2001). The values embedded in a culture influence the behaviour of leaders and of the people working in an organization. In addition, Gunter (2001) explains that in recent yeas there was a colonization of the life-world (the unique relationship among people) by the system-world (the management designs, processes and protocols).

3. METHODOLOGY

The researcher used story telling (a narrative account) and a picture-drawing (descriptive account case study of what happened to three institutions: An American University (an educational institution), a family owned textile manufacturing company (an industrial firm), and a local bank (a service type organization). All these institutions were located in Beirut, Lebanon. As in an experiment, the researcher's goal was to expand and generalise theories (analytical generalisation) and not to enumerate frequencies (statistical generalisation) building scaffolds for other researchers to climb, with the hope that ultimately the "climbers will be able to inform those who follow them" (Bassey, 2002, p. 110). In order to protect the anonymity and confidentiality of the participants, the researcher used a coding system when referring to each institution and to each of the interviewees (Figure 1). The American Universities (AU) was founded early 19th century by Presbyterian missionaries, whose aim was to provide higher education, opening new opportunities, bringing western education to the people of the area (the Middle East). The textile firm (TF) was a successful family owned manufacturing company which started in 1956 and was badly hit by the civil war in 1978. However, almost like a miracle, the firm was able to survive and grow developing new products and providing goods which competes very well in the local market. Similarly, the local bank (LB) started as a small bank with one branch and developed into an international one with branches spread in many foreign countries.

The researcher used semi-structured interviews. The sample selected was divided into three groups. The first group includes four people in the middle and upper management group from each institution who have served the company for a minimum of thirty years (the war and the post war period). The second one is made of four people from each organization who have served the company for fifteen years or less (the post war period) and the third group includes four people who have managed the organization during the last five years or less (the current period).

Figure 1- Interview Transcripts code

M.AU.1-4. Interviews with a manager from an American University.
M.LB.1-4. Interviews with a manager from a local bank.
M.TF.1-4 Interviews with a manager from a textile factory.
1-4 Is a number given to each interviewee from each institution
P1-3 Is the period covered in the analysis
P1 The war period
P2 The post war period
P3 The current period

Research Findings and Analysis

During the Civil War Period

The researcher analyzed and interpreted the data gathered from the interview transcripts, The information gathered painted a remarkably consistent picture of what the people did and even more important, why they did it.

All the members of the managing team in the three organizations agreed that the strong group feeling present during the civil war period provided a kind of security against the misfortunes, threats and danger. One member from the management team from the American University emphasizing the strong unanimity during the civil war period stated:

> The faculty members living on campus, the gate men, the janitors and the president of the university, used to spend many hours sitting next to each other in the shelter, days and nights, hiding from the bombs. They used to spend their time discussing politics and the daily problems and procedures necessary to face the damages caused by the war. . .making possible the survival of the academic operation. M.AU1.P1

Another one confirmed adding:

> Each faculty member, staff and even student found himself or herself doing something for the university: cleaning the broken glass and removing the dirt caused by the shelling, teaching and sometimes talking to groups of fighters who wanted to occupy some of the buildings. This gave the people at LAU a common purpose and a feeling of solidarity. M.AU2.P1

A manager from the local bank had a similar comment:

> I believe that the feeling of trust and interdependence were the secret of endurance and resistance to the destructive factors brought about by the civil war. Our team spirit was a shield protecting us from the external conflicts. M. LB1.P1.

Similarly, three managers from the manufacturing firm reported:

> Leaving the ship sink was out of the question because we would sink with it…Events occurred rapidly. . . The aim was to help the firm navigate through difficult seas. M.TF2.P1
>
> When the factory building was badly hit by a rocket, each one of us (the managers and the employees) joined forces and tried to repair the damage. M.TF3.P1

> The war environment gave people a common purpose and a sense of belonging. The strength of the firm at the time was in the unity of its people. M.TF1.P1

The majority of the people interviewed stated that the feeling of belonging and the sharing of responsibilities between the people working in the organizations during the difficult times were the reason behind the survival of the organizations. One member from the management team of the University commented:

> No one knew what tomorrow was hiding for us. Our strength was in the unity of our faculty, students and staff. Our growth and success was the outcome of our creativity, teamwork and commitment . . . Decisions had to be made quickly. Since it was difficult for one person alone to handle the problems, each member of the managing team and the faculty, at that time, felt responsible and ready to act without waiting for permission because they were not afraid for being blamed. M. AU3.P1.

Two people from the local bank supported the above, stating:

> During the difficult times of the civil war period, the feeling of togetherness was very important in motivating and encouraging people in their struggle for the survival of the institution and their families. M.LB2.P1

> The cooperation, the mutual support, and the many sacrifices made by the each one of us were the reasons for keeping the institution alive and well. M.LB3.P1

Another manager from the manufacturing firm agreed:

> Because of the dangerous situation, most of the members of the managing team (members of the family) spent most of their time with their employees sharing their problems and participating together in the decision making-process. Our team spirit was the cause of some stress-reduction and a drive for better performance and achievement. M.TF4.P1

Similar comments were made by the interviewees when responding to a statement regarding the leadership style used during the civil war period.

> The management group and all the employees used to meet regularly to discuss the problems encountered. These shared obligations and duties gave us a lot of strength and a determination to continue….. M.LB4.P1

> The situation was very difficult and we were scared. Each one of us tried to imagine ahead of time the problematic situations we might encounter. We looked for a proper solution for every eventuality. M.TF2.P1

When asked about the standards of behavior and ethical behavior followed during the civil war period, the interviewees had the following comments:

> *We needed raw material and the airport was closed… we bought them from the local market even though we knew that they were stolen goods. M.TF4.P1*

> *The faculty members and my colleagues in the management group could do things in a way completely different from the way we usually do them. The important point was to get things done. The aim was to reach the main goal of the institution while respecting the basic rules of conduct… we are the role model to our students. AU2.P1*

We tried to have as much control as possible. However, it was difficult and sometimes dangerous to stop an employee from stealing because some belonged to militias. We accepted the situation….Many banks were bankrupt and had to close down …M.LB3.P1

In general, the management group talked about their team spirit, their unity of purpose and their sharing of a common destiny in handling the problems encountered as a big family. The leadership style was participative, unofficially distributed between the people working in the organization. The motivating factor driving people during the difficult years was similar to what Blanchard and Bowles (1998, p. 27) call "The Spirit of the Squirrel: Worthwhile Work". Everyone worked towards a main shared goal, the survival of the organization and where the feeling of belonging guided all efforts, actions and decisions. In general, the organizational culture during the difficult war years was high in sociability and high in solidarity, exhibiting a high level of friendliness and task orientation. It focused on high people orientation and high team orientation with high Confucianism in the American University and low Confucianism in the industrial firm and the service type organization.

During the post War Period

When asked to reflect on the leadership style and the internal culture during the post war period each of the interviewees phrased his/her comment differently. Some managers believed in motivation as a driving force for improvement. They expressed their appreciation for the efforts made by each person working in the organizations. They said:

I keep on telling the faculty that the quality and the good work they have performed are the number one factor in the newly established reputation of the university. M.AU3.P2.

The various points of strength that our institution can claim these days would not have been possible without very able, very caring and very dedicated employees. . We can still improve. . . M.TF2.P2

Nothing succeeds like success. . . Any story of success, and I believe we are one, has its own characters. As time passes by, I am convinced that the leading characters in our story were and continue to be hard work and reputation…. Each one of us should be proud of the collective achievements and each one of us should derive further confidence.M.LB1.P2.

However, other managers talked about growth and the problems encountered:

We focused on growth. The job description for each employee was clear….We had to move fast in order to make up for the lost opportunities (the war period) and in order to meet competition….We delegated authority and responsibility. The employee who does a good job is financially rewarded……. M.TF4.P2

If the bank did not grow, changing from a small bank with one branch to an international bank with many branches, we would not have been able to survive competition…..There is a lot of work to be done.. No time for consulting with employees or take joint decisions……M.LB2.P3

Similarly, when asked to comments about their work environment during the post war period, the interviewees talked about the heavy work load required in the rebuilding phase. They recognized that because of the pressure there was a lack of communication between the people. Some of the comments were:

We use formal communication channels …There are fixed rules and regulations to follow….M.LB3.P2

If a faculty member wants something, he/she have to see the chairperson of the department first, then the dean of the school and then the vice president of academic affairs. It is very formal. M.AU1.P2

In addition, one manager from the university and one from the bank mentioned the loss of qualified employees due to the heavy competition in the labor market and emigration:

It was difficult to hire qualified faculty or keep the good ones…. Other local and foreign universities paid higher salaries and benefits especially to Business professors. They were highly in demand from banks and other financial institutions.M.AU1.P2

Many employees left the country. Others were hired by other institutions. We had to hire new employees with little experienced. M.LB4.P2

Some members from the management group tried to motivate their employees or faculty by recognizing the efforts made in the reconstruction period believing that it was an effective means to increase employee's motivation and satisfaction. However, the lack of communication and the competition in the labor market reduced employees' satisfaction and loyalty.

In general, the leadership style during the post war period was the outcome or the by-product of the economic and political situation that prevailed in the country. It was characterized by average amounts of relationship behavior (average concern for people) and high concern for the job (high concern for task) and a lower concern for collectiveness. The strong team spirit, which prevailed during the war period, did not continue during the post war period. The leadership style during the post war period emphasized achievement focused on the attainment of predetermined objective. The leadership style was transformational, officially distributed, and focusing on task accomplishment.

The Current Period

When talking about the internal culture and the leadership style that prevailed during the current period the interviewees talked about formal and impersonal communication channels which some called (management by remote control). Some of the comments were:

Now it is management by email or by remote control. I travel a lot, there is no time for face to face communication.. M.AU4.P3

Because our employees are spread in many locations (many branches) we use video conferencing….. I rarely see my employees. M.LB2.P3

Because of the work pressure and heavy competition, I have no time to sit with my employees. I talk to them only to explain to them something related to their work…..M.TF1.P3

Now that the university is well established in the community and has its reputation as a good academic center and in view of the high competition it faces, the interest has shifted to satisfying the students…. Strict rules are set and are to be followed …M.AU1.P

In addition, the majority of the interviewees talked about the employees' loss of loyalty and commitments. They mentioned the focus of employees on financial rewards. They said:

Employees are not motivated. They argue about money and are becoming lazy….Because of the inflation in the country they need to work overtime in other institutions in order to live well…M.LB4.P3

They (the employees) work only for money. They feel insecure and are afraid of being lay off. M.TF2.P3

One faculty member said to me when I asked him to do some extra work: "I worked a lot in the past ….Now I am ready to do extra work only if I am paid or if I get a promotion…..M.AU3.P3

Because of the recent global economic crisis and the political instability in the neighboring Arab countries our employees felt insecure about there jobs. In fact some banks have started to reduce the number of employees by asking them to resign and get their indemnity. M.LB1.P3.

During the current period, people working in the organizations developed an attitude of individualism based on personal achievement and material success. The dominant work values became ambition and loyalty to career and to oneself. Employees became more individualistic and materialistic, orienting themselves toward their own self-achievement and financial rewards. The leadership style was directive and distributive with high concern for task.

In general, the culture during the current period was a fragmented culture (low on sociability and low on solidarity) fitting the definition of Goffee and Jones (1998).
As organizations grew in numbers of branches and in physical facilities, communication became very official and impersonal (email management) or as Gunter (2001) explains, there was a colonization of the life-world (the unique relationship among people) by the system-world (the management designs, processes and protocols). The management group had to spread their efforts and time and it was difficult to keep the same closeness they had had during the war. During the current period the feeling of belonging to the institution was almost gone. The trust and the team spirit that had prevailed during the war period were difficult to preserve because of the lack of communication between the people, the work pressure and the insecurity in the country.

4. CONCLUSION

After reflecting on the information gathered from the interviews, it was noted that the leadership styles used changed with the changes in the political and economic environment. The new generation group (group three), i.e., the current managers and their employees exhibited a significantly higher concern for individualism coupled with directive and distributive leadership style than did the other two older generation group in the three institutions. In addition, the older generation group (group one) used participative leadership style with low Confucianism in the industrial firm and the service type organization and with high concern for ethical behaviour in the educational institution. However, the older generation group used work-centered behaviour coupled with a protective people-centered concern, i.e., paternalistic leadership. It was based on co-leadership distributed among all the members. The strong teamwork generated positive synergy through coordinated effort, which created a communal culture.
Similarly, group two exhibited a lower concern for collectivism than group one. The leadership style during the post war period emphasized achievement focused on the attainment of predetermined objective. The leadership style was officially distributed focusing on task accomplishment. It was characterized by average amounts of relationship behavior (average concern for people) and high concern for the job (high concern for task).

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CRUISING FOR A BRUISING:
A REVIEW OF BUSINESS FAILURE THEORIES

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ABSTRACT

Many books and articles have been written about how to succeed in business, but far fewer have been written about how to avoid failure. Nevertheless the study of business failure is important because the path to failure is not merely the opposite of the path to success. This paper reviews the business failure literature and provides a framework for further study of the subject. It is shown that while theories on business failure generally support one another, they sometimes seem to be diametrically opposed. These apparent disagreements are explained.

1. INTRODUCTION

It just as important to know how to avoid failure as it is to know how to achieve success. While many books and articles have been written about how to achieve success, far fewer have been written about how to avoid failure. Storey (2011), for example, complains that the "vast bulk" of theory and empirical work on the performance of new small businesses concern the tiny proportion that succeed while ignoring the vast majority that fail. This gap in the literature would not be important if the path to success and the path to failure were polar opposites (one would only need to understand one path to understand its opposite).

However, research has repeatedly shown that they are not polar opposites. Collins (2009), for example, observes that there are *more ways* for businesses to fail than there are for them to succeed. He also concludes that business failure is more idiosyncratic than business success. He emphasizes the idiosyncratic nature of business failure with the opening line from Tolstoy's *Anna Karenina*, "Happy families are all alike; every unhappy family is unhappy in its own way."

Business failure is also worth studying for at least one more reason: the study of Business failure makes a greater impact on the student than does the study of business success. As Ricks (1983) notes, business success stories are easily forgotten unless they are absolutely incredible, but stories of failures are easily remembered. A tornado is news; a sunny day is the weather report. We remember the tornado.

This paper begins by reviewing and classifying theories of business failure. While the theories generally support each other, there are points of seeming contradiction that are reconciled. The final section makes a few general observations and conclusions on failure theory.

2. THEORIES OF BUSINESS FAILURE

Stage/Cycle of Decline

The first set of failure theories can be classified as "stage/cycle of decline" theories. They explain failure in terms of a sequence of states through which failing companies travel. For example, Collins (2009) finds that failure is the end result of "5 Stages of Decline." Collins' methodology involves two techniques. First, he studies each company's failure by analyzing articles printed both before and during the time of that failure. These writings cannot contain hindsight bias since the businesses in question had yet to fail.

Collin's second technique is to study matched pairs of companies. For each company that failed he finds a corporate twin that survived. The twin is, of course, as similar to the failed company as possible. He then identifies common differences between the surviving and failing twins. These differences are the 5 stages of decline.

Collins cautions the reader that companies can, of course, fail for reasons not covered by his 5 stages. Firms fail due to fraud, bad luck, general economic downturns, etc.; but Collins 5 stages are intended to explain corporate failure only in terms of management attitudes and actions, and not in terms of factors beyond management control. Anything that cannot be controlled cannot be changed and would, of course, not be worth investigating in any case. Collins' 5 stages of decline are: *Hubris Born of Success*, *Undisciplined Pursuit of More*, *Denial of Risk and Peril*, *Grasping for Salvation*, and *Capitulation to Irrelevance or Death*.

Hubris born of success is the arrogance that causes a firm to believe that its approach to business cannot fail; that it is appropriate for any circumstance that might come along. *Undisciplined pursuit of more* is chasing growth without worrying about whether the company can absorb it; this rapid growth necessarily means that key management positions will be filled with new hires that may not have time to understand the company's strategy (to learn for what the company stands). *Denial of risk and peril* means that managers are quick to explain away any bad news or looming hazards as long as the financial statements continue to look good, and even when the financials begin to look bad (and the explanations begin to ring hollow), managers blame outside factors rather than try to determine what they themselves may be doing wrong. *Grasping at salvation* begins when the firm can no longer hide the fact that it is failing; the leaders then begin to aggressively pursue completely new strategies or "game-changing" new products further increasing the danger. Their tactics consist almost entirely of high-risk "Hail Mary" plays. Collins notes that this observation is contrary to what most business success literature asserts about the desirability of "corporate learning" and the common wisdom that companies go bankrupt because they *fail* to adapt and change; he argues that just the opposite is true: companies fail precisely because they change too much. Failure is not caused either by inertia or excessively timid tweaks to the business model, but by major strategic adjustments. Collins' final stage, *capitulation to irrelevance or death* means the leaders ultimately abandon hope; they may put their company up for sale or just slowly slide into oblivion. Either way they are finished.

Mueller et al. (2001) is not a stage/cycle of decline theory, but is mentioned here since it represents the just-mentioned common wisdom in the business literature that it is the failure to adjust to environmental changes that typically dooms failing companies. Mueller relates that the survival of a yacht and crew in an oceangoing sailboat race was due in part to the crew having completely changed their mission (from winning the race to surviving a terrible storm), and that businesses facing decline must likewise make radical changes in their strategies if they are to survive.

It is possible to reconcile Mueller and Collins. In Mueller the yacht crew certainly does completely change the mission, but the change is not a "Hail Mary" attempt to win, but an attempt to retrench and find safety in an easier task. The mission changed from the nearly impossible task of trying to win a race in the midst of life-threatening storm, to the much more doable task of simply preventing the yacht to sinking. Their change of strategy decreased risk. The football analogy is not the "Hail Mary" play, but the prevent defense. Collins warns about adding risk, about increasing managerial complexity, by radical change (rather than reducing it by hunkering down).

Moulton and Pruet (1996) study of business failure also provides support Collins. Like Collins, they too use matched firms (each of 73 firms that declared bankruptcy is compared to a similar firm which did not). They find that failing firms took on debt faster than comparable surviving firms. This propensity towards risk taking provides support for the first four of Collins' stages of decline.

Collins' first stage of decline, *hubris born of success*, seems like an obvious danger. An "obvious danger" is a contradiction in terms; if a danger is obvious, then it isn't a danger. But Hubris, excessive self-confidence, isn't obvious since it is difficult to know when self-confidence is excessive (unjustified). Whyte et al. (1996) illustrates the nature of this danger by showing that what we would call mere self-efficacy plays an important role in the escalation of commitment to a losing cause. Self-efficacy is an admired and probably necessary trait for any manager, but it is hubris when it is unjustified.

The difference between the business failure and business success literature can be see by comparing Collins' to some of the "basic principles" found in the business classic, *In Search of Excellence* (Peters & Waterman, 1982). Of course there are points of agreement: certainly the 5th, 6th, and 7th of P&W's 8 principles: the admonitions to be hands-on, value driven (5th principle), to stick to the knitting (6th principle), and to maintain a simple corporate form with lean staff and few layers of administration (7th principle) are consistent with Collins' warnings about both the undisciplined pursuit of more (stage 2) and grasping at salvation (stage 4).

Still, there are substantial differences between Collins and Peters and Waterman which illustrates that failure and success literatures are both necessary. More importantly, it is a well-known fact that some of P&W's "excellent" companies did subsequently fail, so one would hope that the failure literature disagreed with P&W at some point since something must be very wrong or incomplete in the 8 principles. In fact, the failure theories point to at least two possible errors in P&W. The first error is the unqualified recommendation of staying close (listening) to the customer; the problem with that advice is taken up in the next section. The second error concerns P&W's first basic principle: that it is desirable to have a bias for action. Collins' warning about *grasping for salvation* is completely contrary to that principle in those cases where the action is driven by panic (and substantially adds to the company's risk). P&W do not seem to consider the motivation behind the bias for action to be important, but for Collins motivation is key (strategy changes under panic are likely to lead to disaster).

Kolind's (2006) lifecyle is second stage/cycle of decline theory to be discussed here. It is similar to Collins' 5 stages, but emphasizes a mental model that drives business leaders' decisions as their company falls apart. Kolind asserts that individuals and groups (companies) are dominated by one mental model, one way of seeing things, at a time. The extreme dedication to what is seen as "the" correct mental model is more or less equivalent to Collins' hubris born of success.

Kolind expands on Collins by asserting that, while managers only rarely know the true source of their company's success, they nevertheless have faith that a certain mental model (their particular "company way") is the key to that success. Even in those rare cases where the managers happened to actually be right about the key to their success, conditions may have changed such that the key no longer holds.

Kolind's lifecycle begins with a period of struggle before the firm finds success. This is followed by a period of rapid growth and then later by the inevitable period of stagnation. During stagnation consultants are brought in, managers are replaced, mergers and acquisitions are carried out, but nothing works; this is analogous to Collins' grasping at salvation. His lifecycle ends as Collins' 5 stages end, with the firm's demise.

While Collins' stages of decline are unconditional, Kolind identifies 3 factors that accelerate the drive to destruction caused by management's strict adherence to an incorrect mental model. The factors are: size, age, and success. "Size" relates to Collins' undisciplined pursuit of more; Kolind emphasizes the fact that as organizations become larger, management becomes more and more separated from the customer's voice. The second factor, age, causes outmoded traditions to become solidified. The older the truth, the harder it dies. Managers are understandably loyal to traditions that have made them and their company successful; they like to "dance with them that brung em." In the end, however, traditions in the failing company are given preference over thinking … over desperately needed innovation. The third factor, success, is consistent with Collins' *hubris born of success*. It's hard to argue with success. Success (like age) solidifies the mental model.

Listening to the Customer

As was just noted, Kolind emphasizes the importance of listening to the customer. The unqualified advice of listening to the customer was the 2nd basic principle given by Peters and Waterman and is still commonly assumed to be a path to success in the business success literature. Despite Kolind, the advisability of listening to the customer is not assumed throughout the business failure literature and therefore serves as another useful classification for failure theories.

Christensen (1997), describes a contradiction to both Kolind's advice and Peters and Waterman's 2nd principle. Christensen asserts that companies widely regarded as the best in the world failed *precisely because* they listened to their customers. He specifically mentions the world class companies studied in *In Search of Excellence* when making this point.

Christensen finds that the desirability of listening to the customer is contingent upon this technological dichotomy: whether the company's product is a sustaining- or disruptive technology. He says that listening to the customer is correct regarding sustaining technologies, where the goal it to improve product performance, but it is completely wrong when it comes to disruptive technologies, where the appropriate goal is to make the product cheaper, simpler, smaller, or more convenient.

Christensen shows that companies that developed 14-inch computer disk drives in the early 1970s (disk drives being a disruptive technology) for mainframe computers had no customers who demanded the smaller, cheaper, and lower capacity 8-inch drives later used in minicomputers. The 8-inch drive manufacturers in the late 1970s in turn had no customers who demanded the inferior 5.25-inch drives later used in desktop PCs. In the same way the 5.25-inch drive manufacturers had no customers who demanded the inferior 3.5-inch drives later used in portable PCs, the 3.5-inch drive manufacturers had no customers who demanded the inferior 2.5-inch drives later used in notebooks, and the 2.5-inch drive manufacturers had no customers who demanded the flash memory later used in iPads.

At no stage of the disk drive's downward migration did the customers in the existing market demand the product changes that were necessary for the manufacturers to ride the wave of the future. In fact, the customer demands were always in the wrong direction. Thus, existing manufacturers, listening to their customers, always failed to successfully serve the emerging markets. It was up to new entrants to take that disruptive technology on the next leg down in performance (but up in terms of what the new market wanted). Companies that manufactured 14-inch drives (Diablo, Ampex, and Memorex) gave way to companies that made 8-inch drives (Shugart Associates, Micropolis, Priam, and Quantum) which in turn gave way to a company that made a 5.25-inch drive (Segate) which gave way to those who made 3.5-inch drives (Connor Peripherals and Miniscripe) as the markets went down down down. The pattern was broken as the 3.5 inch manufacturers did move into 2.5-inch drives, but that was perhaps only because their customers were also demanding the smaller drives (the technology was not longer disruptive, but sustaining).

Christensen says that customers who listen to their customers where technology is disruptive will allocate investment to innovations that are doomed from the start because disruptive technologies run ahead of markets…run ahead of customer desires. There are times when it is best to ignore customer desires, develop lower-performing products, and go after a very promising emerging market.

Christensen's work begs this question: How does one know if a particular technology is disruptive or sustaining? Hang et al. (2011) builds on Christensen's model by proposing a simple checklist ("assessment framework") for answering that question (for predicting whether or not a particular technology is likely to suffer a disruption). If a particular technology is found to be disruptive, their checklist also predicts which type of disruption ("low-end" or "new niche market") is more likely.

Lists of Undesirable Management Characteristics and Actions

The remaining failure theories are harder to classify. That said, they generally consist of lists of undesirable management characteristics and actions. For example, Sobel (1997) illustrates 17 fatal management characteristics or actions (there are some of both. It is interesting to note that one of his fatal actions is downward brand extension (which would seem to be exactly what Christenson *recommends* for avoiding trouble in disruptive technologies). But Sobel and Christenson do not really disagree in that they are talking about different issues. Sobel is talking about the desirability of product focus, and emphasizes that a product line must be consistent with the company niche. Christenson's comments regarding disruptive technologies are about knowing when it is necessary to refocus and pursue another niche. Both agree that focus is necessary.

Stam (2009) provides a list of "intellectual liabilities", those liabilities are the generally-ignored downside of intellectual capital. Stam suggests that businesses may fail by not explicitly recognizing and measuring them (in the same way that failing to recognize financial liabilities could lead to business failure).

Just as the literature says relatively little about business failure, Stam reports that it also says very little about intellectual liabilities (as opposed to the large volume of work on intellectual assets). He proposes a classification system for intellectual liabilities consisting of external- and internal- liabilities. External liabilities consist of force majeure (circumstances beyond the organization's control) and market liabilities (risk of deterioration as a result of competitor actions). These liabilities are not of interest in this study because they are beyond management control. Internal liabilities, on the other hand, are under management control and consist of 1) human liabilities (such as high employee turnover, inadequate training, etc.), 2) structural liabilities (such as poor planning processes, groupthink, struggles for power, etc.), and 3) relational liabilities (such as poor company image, poor service, liability suits, etc.).

Labich (1994) says the most debacles are the result of one or more of 6 big mistakes. He says that companies fail because managers, misunderstand the nature of their business or fall away from a previous knowledge, have a failure of vision, misperceive their company's financial situation, are passive in the face of rapid change, are isolated from their customers, or fail in the care and nourishment of their labor force.

Labich's view that managers misunderstand the nature of their business differs from Kolind only slightly; Labich concedes that managers may have at least originally understood what their businesses were about, while Kolind seems to reject even that meager possibility. Both talk about the problem of incorrect mental models. Labich says that management's misunderstanding is often made manifest in the way corporate leaders succumb to fads; this observation was consistent with that of other authors (such as Collins' *grasping at salvation*).

Failure of vision, the second of the 6 big mistakes, could be observed in the tobacco companies failing to see the danger in antismoking campaigns, the Big 3 automakers failing to see the rise of their Japanese competitors, etc. Here Labich agrees with Kolind when he says that companies do not lose ground because they are slow to adapt, but because they don't realize the situation they face is fundamentally new (requiring a fundamentally different approach).

The third big mistake is becoming excessively leveraged such that the firm cannot weather a downturn or respond to competitive challenges. This is consistent with Collins' undisciplined pursuit of more and Mueller's warning to maintain a store of uncommitted resources for use in downturns.
The fourth big mistake is becoming complacent and sticking to the way things have always been done; this is similar to Christenson's warning about sticking to the knitting, but Christenson is more specific about when that sort of behavior is destructive (when dealing with disruptive technologies).

The fifth big mistake is failing to stay close to the customer. Again, Christenson provides a better look at this by recommending staying close to the customer only when dealing with sustaining technologies. Labich does add two aspects to this issue. First he recommends that managers pay just as much attention to customers who have left them as they do to the ones who remain. But Labich does overlook the customer who does not purchase in the first place; again, Christenson does better at this by recognizing that in the case of disruptive technologies it is the customer who does not purchase that is the real danger.

The second aspect that Labich adds to the issue of staying close to the customer is his recommendation that managers pay attention not to just their immediate customer, but to their customer's customer and all other customers further along the value chain. He suggests that feedback from sales people is essential in avoiding these misstates and that the more specialized the salesperson is, the more likely that feedback will provide really valuable information.

The sixth and final big mistake is not taking care of the workforce or creating actual hostility by preaching one thing and practicing something else. For example, management may tell workers that it will reward teamwork and then reward individual salespeople, or may tell workers that costs need to be cut and then spending lavishly on themselves.

3. OBSERVATIONS AND CONCLUSIONS

Three categories were developed here for classifying business failure theories. Theories were classified as being primarily about stage/cycle of decline, listening to the customer, or lists of undesirable management characteristics and actions.

These categories overlap. For example, some theories that were not explicitly about stages or cycles of decline (or at least did not emphasize that aspect) nevertheless had a certain time-order to them. Christenson, for example, was classified as being primarily about the desirability of listening to the customer, but it also describes a cycle of failure that consists of (incorrectly) listening to the current customer, aggressively investing in the technology to serve that customer (which will usually be the wrong technology for the emerging market), failing to serve that new market, and financial ruin as the new market becomes dominant and the old market collapses. Labich's 6 big mistakes also can be fit into a chronology with a bit of force.

Some of the theories concerning undesirable management characteristics and actions (such as Sobel's list) get into psychological issues such as personal values, personality, perception, and psychological state. Although this aspect of failure deserves attention it was beyond the scope of this research. Thus, such topics as groupthink or the Abilene Paradox are left for the psychologists.

It was seen that there are substantial differences between business success theories (such as principles in *In Search of Excellence*) and business failure theories (such as Collin's 5 stages of decline). There were also apparent contradictions among the failure theories. Still the points of agreement in the failure theories were many and the contradictions were few and seemed reconcilable.

Still the contradictions point to at lease three questions that merit further consideration. When is a bias for action desirable/undesirable? How do we know if we are dealing with a sustaining or disruptive technology? And finally, When should a particular mental model be kept/abandoned…when is it a bad idea to continue to "stick to the knitting?" The three questions are interrelated and all of them get at the idiosyncratic nature of business failure (as reflected in the Tolstoy quote).

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GREEK HOSPITALS' PROCUREMENT PROCEDURES. SHORTAGES AND DISCREPANCIES TO THE SYSTEM OF HOSPITAL PROVISIONS

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ABSTRACT

The purpose of this article is to find the causes that create shortages and discrepancies to the system of hospital provisions, aiming to constitute proposals – solutions to that very problem, in a long-term session, revealing at the same time the defining necessity of a well-established provision system that works properly and organized within the supply of hearth care, research and development of the hospital institution. We seek to highlight the contribution of hospital provision system and especially the procurement department which is responsible for the hospitals' provision procedures.

While we consider the ways the supply chain works within a hospital, we become more troubled concerning how right and complete this procedure is on its initial phase, that is, during the formulation of supplies request. The problem may have broader dimensions, for even though procurement procedures are similar to all public hospitals, despite their type and size, our empirical data show that a large number of hospitals display deviations and errors in their procurement procedures.

Keywords*: Hospital supplies, scheduling of procurements, procedures, unified procurement program, business action plan, provisions, medical service or department*

1. INTRODUCTION

It has been supported that nowadays people find it difficult to understand the world in which they live in. Organizations all over the world and specially hospitals try to stay current in an environment that changes rapidly. A lot of them fail. It has been proved that one of the most important reasons for these failures was the lack of information for hospitals' provisions methodology. In this article, we tried our questionnaire to include most of Greek hospitals so that we collect the maximum of data, contortions – particularities, amongst hospital and their procurement procedures. Another approach was our effort to secure a broad information distribution amongst the interactive relations and influences in order to diagnose and define the interdependence degree of all parameters and procedures, of the hospital's financial office procurements' department.

2. LITERATURE REVIEW

Greek State hospitals are required to schedule their yearly procurements, according to the law which governs the procurement of supplies for the public sector (Law 2286/1995, Government Gazette Page 19/A/1995). This scheduling must be reported to the relevant department of the Ministry of Development (formerly the Ministry of Commerce) in order to obtain approval and for these procurements to be included in the Unified Procurement Program (U.P.P.).

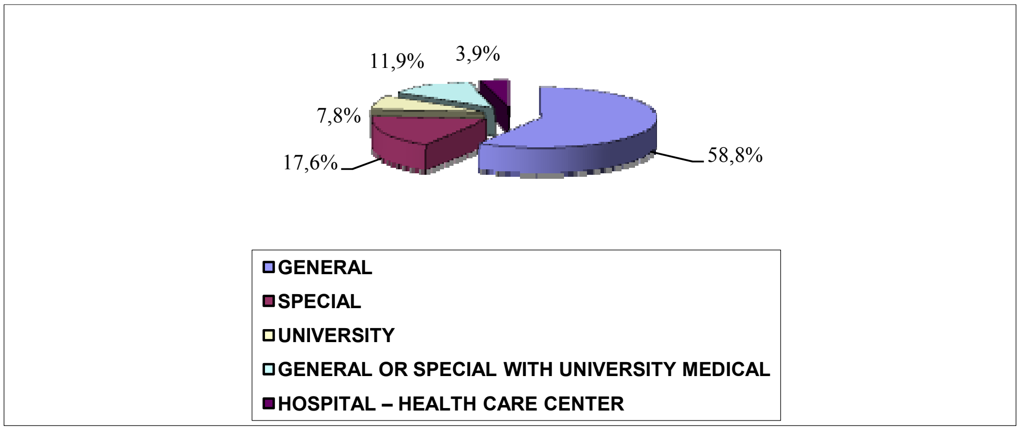
This article deals with procurement procedures for provisions effected nowadays by Greek Hospitals with a sample of fifty (50) out of a hundred and thirty (130) country hospitals. We observe a series of problems – errors to the realization of these provisions, as for example delays in the tender preparations, cancellation of tenders, a dense compliant behavior by suppliers to these problems and non-contractual provision of hospital supplies. Our suggestions (creations of templates and methodological protocols, abolition of non-contractual hospital supplies and unified application of information technology systems) try to deal these long-lasting problems with radical structural improvements and organizational interventions of long-term application and return.

3. BODIES AND PROCUREMENT PROCEDURES

According to the legislation for the development and function of the Greek National Health Care System, there are the following types of hospitals a) General, b) Special,c) University (or Academic). We actually see: d) General or Special with University departments and e) Hospitals – Health Care

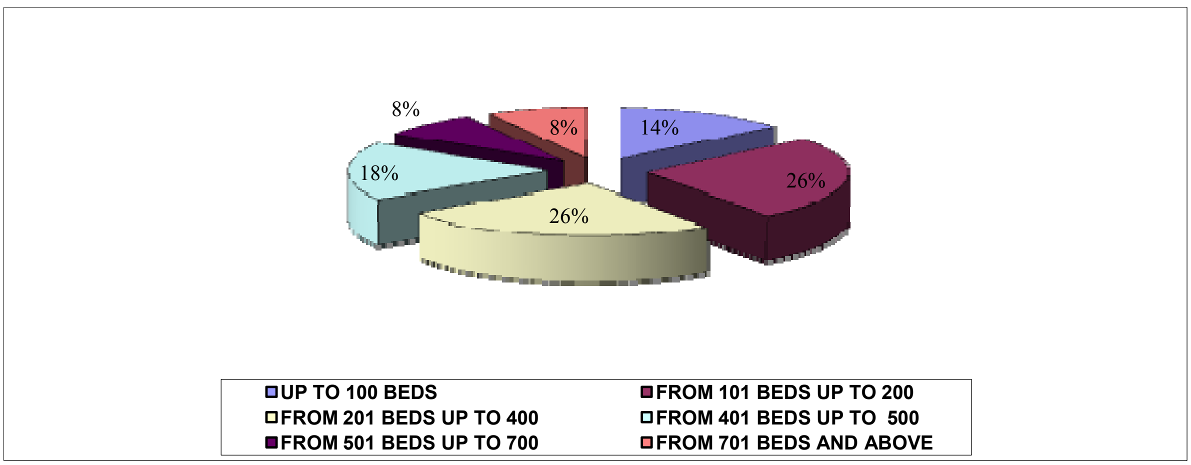
Centers. Our total sample covers all types of hospitals in Greece, since from the 130 officially recorded by the Ministry of Health and Welfare Greek hospitals, 50 answered. Hospital types of respective percentages are depicted on the following Figure 1.

Figure 1: Hospital Types Pie Chart



Respectively sampled hospitals have a bed capacity from less than 100 up to greater than 700, as depicted in Figure 2.

Figure 2: Number of bed capacity Pie Chart



As derived by Table 1 findings, the number of hospital types and their bed capacity is adequate, to draw safe data for our research concerning their procurement procedures.

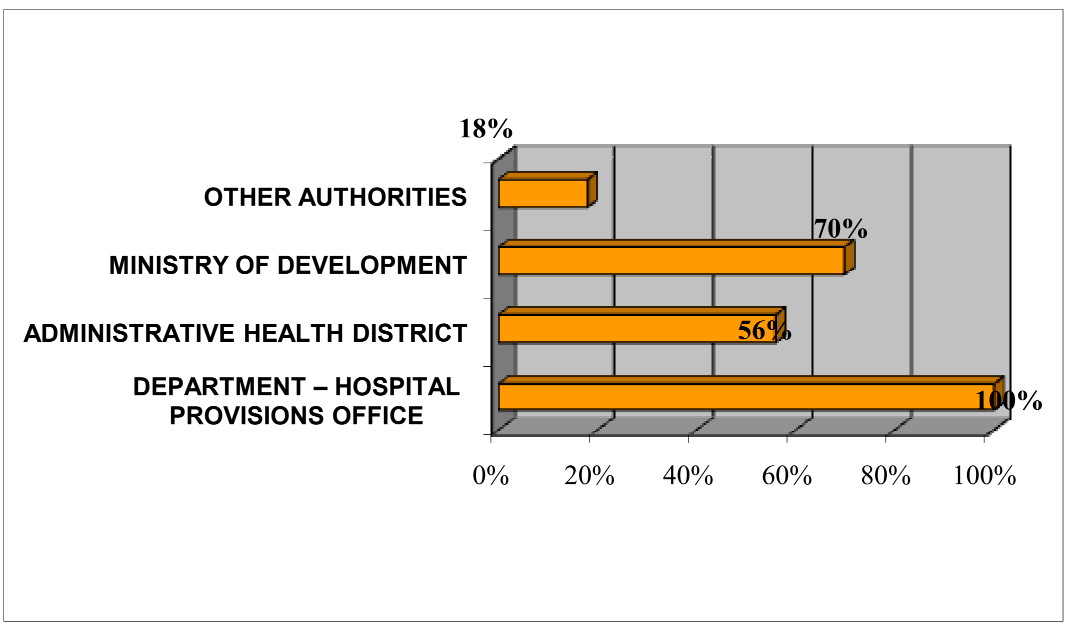
The Greek Legislation concerning the supply of public bodies and specifically in the Law 2955/2001 "Hospital Provisions and rest of Health Care Units of Peripheral System of Health Districts – *"Pe.S.Y.P."* and complimentary arrangements" states that, hospital provision contractual agreements are contracted and executed either by the Ministry of Development or by *"Pe.S.Y.P."* (former Health District - "*Y.Pe*"), or even by the hospitals themselves that are supervised by a relevant *"Y.Pe"*, as shown in Figure 3, according to our questionnaire results.

Table 1: Allocation (absolute and relative frequencies) of bed capacity by hospital type

	NUMBER OF BEDS						
HOSPITAL TYPE	UP TO 100 BEDS	FROM 101 BEDS UP TO 200	FROM 201 BEDS UP TO 400	FROM 401 BEDS UP TO 500	FROM 501 BEDS UP TO 700	FROM 701 BEDS AND ABOVE	TOTAL
GENERAL	2 (6,7%)	12 (40%)	12 (40%)	3 (10%)	1 (3,3%)	0 (0%)	30 (100%)
SPECIAL	3 (37,5%)	1 (12,5%)	1 (12,5%)	3 (37,5%)	0 (0%)	0 (0%)	8 (100%)
UNIVERSITY	0 (0%)	0 (0%)	0 (0%)	0 (0%)	3 (75%)	1 (25%)	4 (100%)
GENERAL OR SPECIAL WITH UNIVERSITY MEDICAL DIVISIONS	0 (0%)	0 (0%)	0 (0%)	3 (50%)	0 (0%)	3 (50%)	6 (100%)
CLINICS – HEALTH CARE CENTER	2 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (100%)
TOTAL	**7 (14%)**	**13 (26%)**	**13 (26%)**	**9 (18%)**	**4 (8%)**	**4 (8%)**	**50 (100%)**

From the results it is clear that for the total number of sampled hospitals (100%), the procurement procedures are effected by the responsible Procurement Office/Dpt., even though a percentage of 56% of sampled hospitals conduct procurement procedures through Health Districts, for some of their necessities and another percentage (70%) conducts a series of procurements fro different necessities through the Ministry of Development. Also, a small percentage (18%) of sampled hospitals conducts provisions with other institution besides the pre-mentioned.

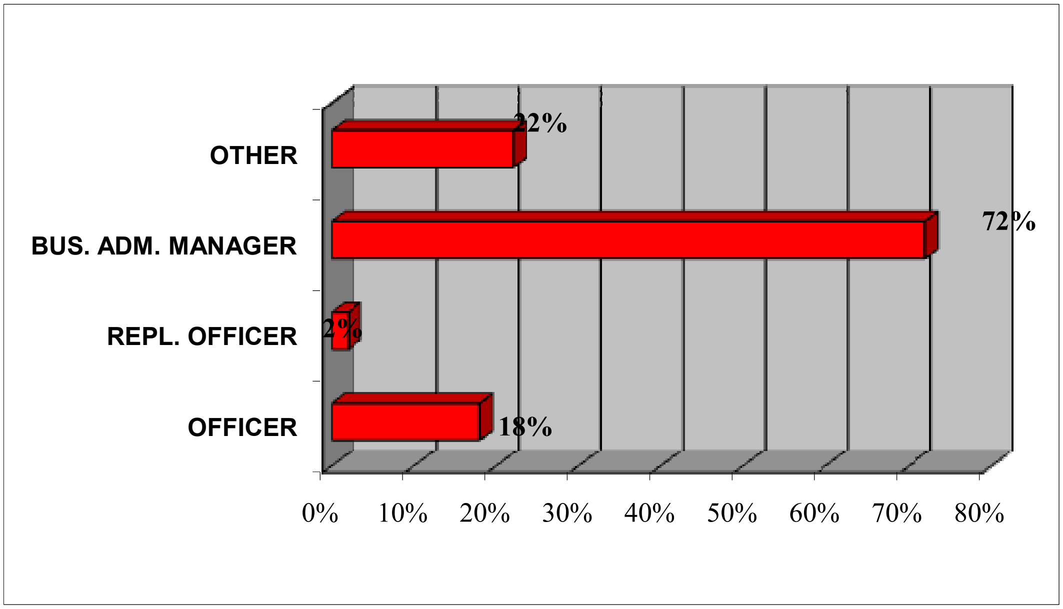
Figure 3: Tender Conduct Authorities Bar chart



According to the existence or not of an internal regulation system in the Procurement Office of our sampled Hospitals, where by crushing majority proved deprived (70%), while merely a percentage of 28% incorporates. This fact, coupled with the former question where 100% of sampled hospitals conduct procurements through their own Procurement Office/Dpt., highlights the fact that a large part of provisions procurements is conducted by empirical procedures.

Data depicted in Figure 4, where we see that the total of sampled hospitals have assigned their Procurement Offices to the supervision of clerical agents (Business Administration managers 72%, other 22%), that explains greatly the way hospitals manage to execute provisions without a standard internal regulation system, based on the empirical and academic knowledge of their official staff.

Figure 4: Bar Chart for the assignment of procurement offices to clerical agents



Data related to provision of hospital equipment, show that sampled hospitals again in this case execute by 88%, open tenders. The percentage of 22% sampled hospitals that effects synoptic tender procedures shows that even a smaller number of hospitals either has specialized know-how or is composed by specialized personnel. These remarks are depicted in Figures 5 & 6.

Figure 5: Bar Chart of Tender Type effected for different provisions

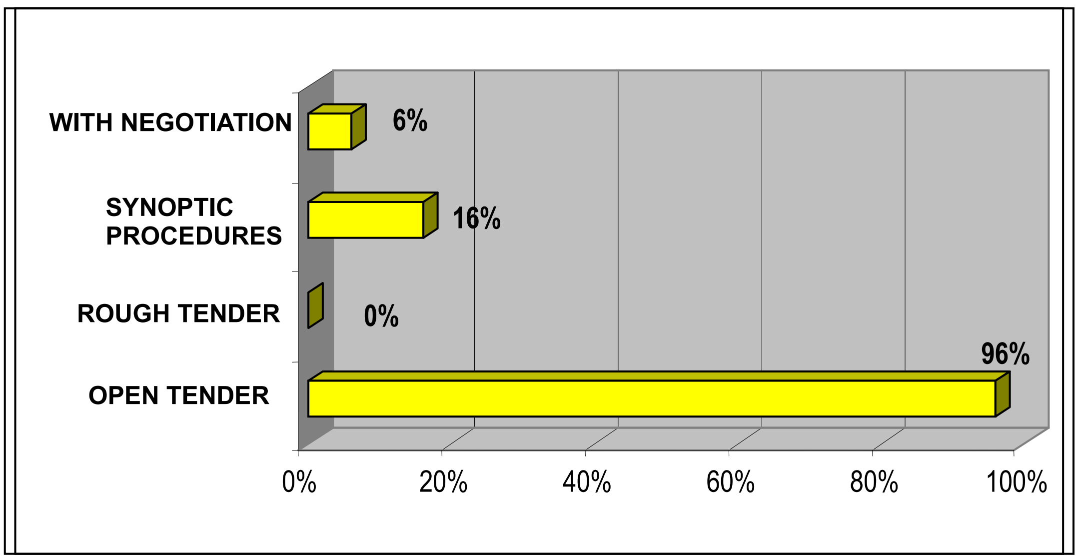
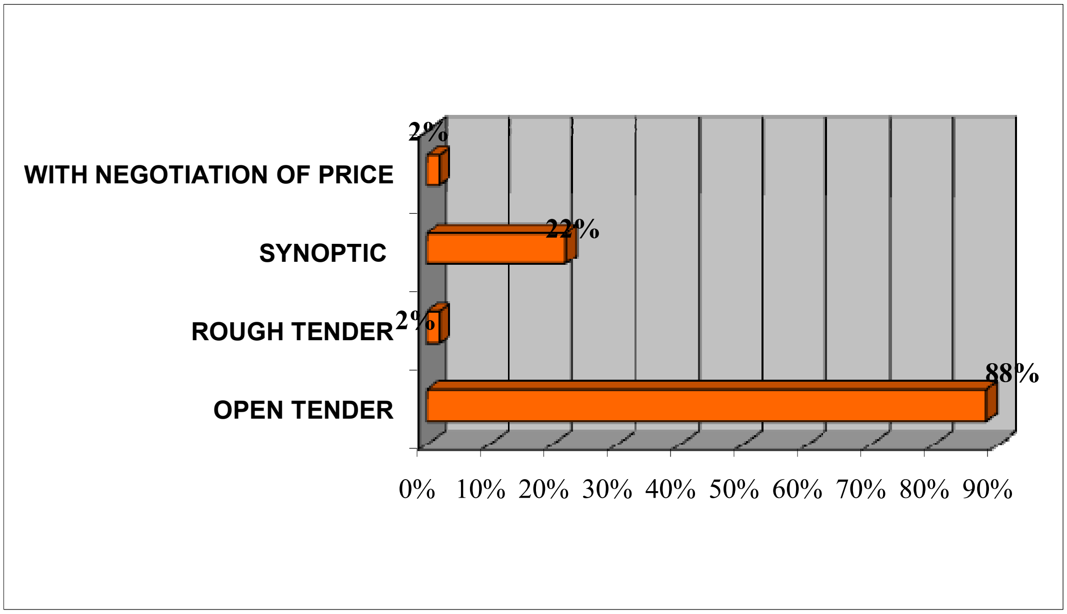


Figure 6: Tender type Bar Chart for the provision of hospital equipment



Data related to the prediction of partial deliveries from suppliers and whether conditions are actually followed, sampled hospitals in their totality (100%) answered that partial deliveries are indeed effected by their suppliers and 98% of the hospitals verify that relevant condition are followed. Therefore, from data collected derives that sampled hospitals have the possibility to take into advantage partial deliveries from suppliers, regulating inventory and logistics to their benefit.

Especially in subjects of provisions with rough tenders, the majority of sampled hospitals complete the process within 2 months (44%), three months (30%) and even one month (28%), fact that shows that a small number of hospitals seek to speed up the tender procedures or they tend to deal with provisions of simplified specifications.

Subject of great importance is that the only hospitals that actually need more than three months to complete their provision procedures via rough Tenders are either general or special with University Divisions (50%).

The findings according tender cancellation show that sampled hospitals in percentage of 84% have cancelled tenders, proving from empirical data that there are difficulties either in accessing real needs during tender procedures or - in some cases – to meet the market demand.
At the same time hospitals which in their total have cancelled tenders (100%) are mostly Generals or Special Hospitals with University Medical Divisions, followed by merely Generals in percentage of (90%), University hospitals (75%) and finally Special hospitals (62,5%).

These evidences are rather troublesome since all hospitals of any type and especially with big capacity as shown in Table 2 on next page, have cancelled tenders despite the fact that big and special hospitals have adequate number of specialized personnel in their administrative services.

Talking about the reasons of Tenders' cancellation, 54% hospitals of our sample answer that it is mostly due to non offers participation, another percentage(42%) state that sometimes there is only one offer given, while by 38%, hospitals answer to amendments of conditions of technical specifications and by 26% say that they receive delayed evaluation minutes from tender committees.

Data according suppliers' compliance behavior is very interesting. The 62,5% of hospitals states that they haven't faced any problem with suppliers compliance behavior, while 31,3% of hospitals say they have. Given that our empirical data have quite times shown oligopoly reasons such as for medical gases, where a percentage (31,3%) of sampled hospitals that have answered affirmatively may only be the peak of the iceberg of the "dense" compliance behavior of suppliers that hospital personnel are weak to verify.

Table 2: Cancellation of Tenders by Hospital capacity

BED CAPACITY PER HOSPITAL	SAMPLED NUMBER OF HOSPITALS THAT ANSWERED	TENDERS CANCELLATIONS	
		NO	YES
UP TO 100	7 (100%)	4 (57,1%)	3 (42,9%)
FROM 101 UP TO 200	13 (100%)	2 (15,4%)	11 (84,6%)
FROM 201 UP TO 400	13 (100%)	1 (7,7%)	12 (92,3%)
FROM 401 UP TO 500	9 (100%)	0 (0%)	9 (100%)
FROM 501 UP TO 700	4 (100%)	0 (0%)	4 (100%)
FROM 701 AND ABOVE	4 (100%)	1 (25%)	3 (75%)
TOTAL	50 (100%)	8 (16%)	42 (84%)

As shown from the findings on the twelfth question the majority of our sampled hospitals (78%) did not address to other markets or the Competition Committee (100%) or the Ministry of Health and Welfare (90%), or responsible "*Y.Pe"* (80%), that may be explained by the fact that it is difficult to discern an organized behavior in suppliers or there is no specialized personnel to analyze such a behavior.

At the same time, findings about non-contractual provisions show that hospitals in their totality (100%) do effect such provisions. This fact is nearly affirmed from the great time needed to complete an open tender to as previous described, while it could be totally justified in cases when suppliers do not submit offers or when only one supplier is left.

Analyzing the reasons that non-contractual provisions take place, sampled hospitals in 32% percentage appoint them to deviations between budgeted and actually effected quantities. 76% of sampled hospitals notes that these provisions are due to necessary goods for the function of hospital units that did not operate during the procurement procedures, 26% say that these provisions are due to the cancellation of Unified Provisions Plans and 38% reply that this phenomenon derives from the very cancellation of Tenders. Finally, another percentage (36%) of sampled hospitals notes that these provisions are due to other reasons.

Data derived about products' validity experiment show that 58,3% of hospitals reply affirmatively, proving fact that shows monitoring weakness or lack of expert know-how, or lack of specialized personnel, or cases of corruption.

As far as which is the most supplied product after the end of its contractual validity sampled hospitals answered by 78,6% for reagents, health care products (57,1%), dressing equipment and laparoscopic consumable products (42,9%) and implants (21,4%), where for reagents between years 2005 and 2007 remain at the same percentage (35,3%), in year 2004 (17,6%) and years 2006 and 2008 (5,9%). For health care products in year 2007 (38,5%), year 2006 (30,8%), year 2008 (15,4%) and years 2004 and 2005 (7,7%). Dressing equipment in year 2007 (50%), year 2008 (30%) and years 2005 and 2006 (10%). Consumable laparoscopic products for years 2005, 2007 and 2008 (25%) and years 2004 and 2006 (12,5%). Implants for year 2004 (40%) and years 2005, 2006 and 2007 (20%). Cardio plastic products for year 2008 (66,7%) and year 2005 (33,3%). Implants in years of 2004 and 2005 (50%). Intervening Cardiology products for year 2005 (100%).
Findings show that in most cases is not about systematic procedure of provisions after the end of contract validity. On the contrary, scattered products between years 2004 – 2008 reveal that provisions of products after the end of their contract validity, is mostly due to their insufficiency of

provision re-scheduling. In certain cases, it may even concern specialized products not often used by the hospital. The above is depicted in Tables 3 and 4.

Table 3: Allocation (absolute and relative frequencies) of contractual products with expired validity

PRODUCTS	NO f (%)	YES f (%)
SANITARY PRODUCTS	12 (42,9%)	16 (57,1%)
DRESSING EQUIPMENT	16 (57,1%)	12 (42,9%)
CARDIOPLASTIC PRODUCTS	24 (85,7%)	4 (14,3%)
INTERVENING CARDIOLOGY PRODUCTS	27 (96,4%)	1 (3,6%)
REAGENTS	6 (21,4%)	22 (78,6%)
GRAFTS	22 (78,6%)	6 (21,4%)
IMPLANTS	26 (92,9%)	2 (7,1%)
CONSUMABLE LAPAROSCOPIC	16 (57,1%)	12 (42,9%)

Table 4: Allocation (in absolute and relative frequencies) of contractual products with expired validity (per year)

PRODUCTS	2004 f (%)	2005 f (%)	2006 f (%)	2007 f (%)	2008 f (%)
SANITARY PRODUCTS	1 (7,7%)	1 (7,7%)	4 (30,8%)	5 (38,5%)	2 (15,4%)
DRESSING EQUIPMENT	0 (0%)	1 (10%)	1 (10%)	5 (50%)	3 (30%)
CARDIOPLASTIC PRODUCTS	0 (0%)	1 (33,3%)	0 (0%)	0 (0%)	2 (66,7%)
INTERVENING CARDIOLOGY PRODUCTS	0 (0%)	1 (100%)	0 (0%)	0 (0%)	0 (0%)
REAGENTS	3 (17,6%)	6 (35,3%)	1 (5,9%)	6 (35,3%)	1 (5,9%)
CRAFTS	2 (40%)	1 (20%)	1 (20%)	1 (20%)	0 (0%)
IMPLANTS	1 (50%)	1 (50%)	0 (0%)	0 (0%)	0 (0%)
CONSUMABLE LAPAROSCOPIC	1 (12,5%)	2 (25%)	1 (12,5%)	2 (25%)	2 (25%)

On our question about the ways that a non-contractual provision is effected, 6% of sampled hospitals replied "by direct assignment", 78% "by collection of offers" and 30% "through negotiation of price. Finally findings about products provided to patients not insured in Social Security Funds, 78% of sampled hospitals, replied that their source of financing are operating inflows and 48% by grants from the Ministry of Health and Welfare. This reality enforces the empirical approach on hospital deficit reasons, from provisions point of view.

4. CONCLUSIONS

4.1 Procedures and Control System of Provisions

As analyzed above, a great number of hospital provisions, is effected rather with empirical procedures, since 100% of sampled hospitals is completing its provisions through its procurement office, which in 70% of hospitals, does not have an internal regulation system for the conduct of Tenders and yet manages to overcome relative problems, since in 72% of sampled hospitals, monitoring is effected by the Head Officer, who by virtue has a high empirical knowledge and the situation becomes more dysfunctional, since 88% of hospitals, conducts open tenders that can be satisfactorily effected based only on empirical knowledge.

Moreover, sampled findings reveal that 100% of hospitals turn to their advantage the possibility of partial deliveries that allows them to exploit the time given to think again on their actual needs and order accordingly, this way regulating their inventory and logistics. Of course, all hospitals turn to their advantage the possibility given by law to conduct rough tenders, that in their majority are completed within 2 or three months (74%), while for open tenders, they need up to 6 months (46%). At the same time, there are cancellations of tenders which reach the amount of 84% of hospitals, that prove empirical data correct, while there are problems met to the estimation of needs, and tender conduct as well; in some cases, responding to the market, 54% of sampled hospitals, claim that the cancellation of tenders is due to the no-submission of offers from the supplier part. The fact that arouses serious questions is that sampled hospitals in 16% of their number state that tenders cancellations produce asserted consequences to their staff.

Therefore, we reach to the conclusion that tender procedures are followed to a great deal according to the Unified procurement Plan, although the percentage of their defect shows that the hospital regulatory system is of law satisfaction.

4.2 Compliant Supply Behavior

We notice extreme difficulties when talking about compliant supply behavior, since a percentage of 31,3% of sampled hospitals, states having dealt with troubles with the compliant supply behavior. Given that 75% of sampled hospitals that have already encountered the compliance in suppliers' behavior, are mostly between 501 to 700 bed capacity, only verifies empirical data, which are seen as the peak of the iceberg of the dense compliant supplier behavior, which higher leveled administrative hospital staff meet obstacles in verifying.

Therefore, it is concluded that the phenomenon of compliant supplier behavior, is dominant, within the provisions chain of Greek hospitals, that cannot deal with, as proven by the findings of our sample.

The majority (78%) of our sampled hospitals does not turn to other markets, or to the Competition Committee (100%), or the M.O.H.A.W. (90%), or even a responsible Health District (80%). This fact can be explained empirically, based on that organized suppliers' behavior is elusive, and there is no specialized hospital personnel to analyze it.

Therefore, we draw the conclusion that there is in fact organized behavior by suppliers', strong enough to affect the provision chain of hospitals but it is not measurable.

4.3 Non-contractual Hospital Provisions

If the above conclusion is combined with the fact, that the total number of sampled hospitals (100%), realize non-contractual provisions, it fully justifies cases of organized suppliers behavior, since the index which shows that hospitals snap non-contractual provisions often and also significant in size, is at 41,3 of sampled hospitals. The problem is even more sharpened since 76% of sampled hospitals claim that their no-contractual provisions, concern product absolutely necessary to their functional units. This weakness becomes dangerous, since 53,8%of sampled hospitals, do receive products through expired contracts, there as we draw the conclusion that there is extreme inexistence of control either due to lack of know-how or specialized personnel or even corruption.

Findings show that in most cases there is no systematic provision procedure after the expiration of a contract. On the contrary, dispersion in years 2004 – 2008 reveals insufficiencies in scheduling and provisions planning. In some cases though, we may talk about special products that are not commonly used by the hospital.

Furthermore, another burden on the provisions chain is added since only 30% of sampled hospitals is conducting non-contractual supplies via negotiations of prices and thus augmenting the problem, once 78% of sampled hospitals provided patients with products that are not financially covered by the Social Security Fund.

Therefore, we understand that a part of hospital deficits is due to the uncompleted provision procedure, as proven by our empirical data.

5. PROPOSALS

For the best estimate of needs, we suggest the creation of template and methodological protocols, for the totality of procedures, through which needs should be assessed, including all tender procedures and safeguard processes for a healthy competitive market. These templates and protocols should be accompanied by quality indexes as well as achievement indexes, so that usable data can be drawn that will support any regulatory system (Farmer, 1972).

Because any safeguard process of the above suggested healthy antagonism is very hard to be implemented in the Health sector, considering its long-lasting hospital deficits, we could suggest the constitution of a specialized enforcement system for the protection of competition (Ellram, 1983). Deficits, dissipate the very base of healthy competition since every single day suppliers remain unpaid, a part of them, is thrown out of the market since they cannot sustain the financial burden.

Simultaneously to the reinforcement of a healthy competitive market, we suggest the abolition of non-contractual provision, with the support of an according Health District support on operational matters (Spekman, 1989). When this procedure may become impossible, we suggest as exclusive way of non-contractual provision, the process of negotiation, with respective pre-invoiced hospital services, so that it is clear to Social Security Funds, what they will have to cover even when supplies come from non-contractual agreements. Pre-invoicing can be achieved with the broadly used formula of DRG's or other International standards (Kisser, 1976).

Closing, we feel obliged to make a final remark, the unified application of information technology systems, within every single hospital, for all administrations with applied internal regulations described in our first suggestion, updated with every new regulation, national or European directives (Dobbler). These informative systems will work as auxiliary systems if, as suggested, there will be scheduled orders for all goods and a simultaneous scheduled quantity of each good, product category, if inventories are created, and a unified code system is applied for all hospital products and services (Min, 1994).

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RELEVANCY OF SIMPLE ESTATE PLANNING CONCEPTS FOR COLLEGE STUDENTS: FROM A TEACHER AND STUDENT PERSPECTIVE

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ABSTRACT

Estate planning concepts and tools are very important in the financial and emotional lives of persons who hope to provide financial stability and reduce worries for their families. Every person can certainly benefit from the use of estate planning techniques to help make certain that their wishes will be carried out upon death or disability. But what about the needs of college students, particularly single ones? Are certain basic estate planning techniques really essential for them? If so, how can we present these topics to make students feel the relevancy of them in their lives so they can take them seriously and make use of them currently? By approaching them in a way to reveal their current relevance, it can be a great way to connect with the students and provide them a valuable resource. Our paper looks at certain estate planning concepts and how to get the students "on board" in making these important decisions now, so they can work for them immediately. It addresses these concepts from both the teacher and student perspectives.

***Keywords**: estate planning, course relevancy, power of attorney, health care directives, jointly owned property, life insurance.*

1. INTRODUCTION

In any course, say the words "estate planning" and you begin to see the students "tune out" almost immediately. They may take a few notes in case there is a quiz or test questions later, but they ask few, if any, questions about a subject they believe will only become relevant after graduation, marriage, children and lucrative paying jobs. What college students do not realize is that there are certain basic estate planning concepts that are important to them even now. But how do we, as teachers, get them to "connect" with these concepts?

As a student, we take many classes that are in the general education area, core courses in our discipline area and other concentrated courses for our majors. Realistically, we can see the relevance in some courses where we can see how it will actually affect us currently. Others, it may take much longer to understand the rationale for these required courses. So when it comes to a course with estate planning concepts, it is one of those courses that is difficult to see the immediate use from the student perspective.

2. ESTATE PLANNING CONCEPTS FOR COLLEGE STUDENTS

Obviously, there are no two courses exactly alike when it comes to the demographics of our students. But there are certain basic estate planning concepts that would fit for all students. These would include a health care directive, power of attorney, life insurance and jointly held property or assets for ease of transfer in case of death.

The health care directive, sometimes called a living will, provides for the naming of an agent to assist a person with certain health care decisions, including the withdrawal from life support, when that person has been rendered incapable of making their own health care decisions due to accident or health issues.

A durable power of attorney can be used by a person who needs to have non-health decisions made for them. Oftentimes, this is for financial decisions during hospitalization or other circumstances that make it very difficult or nearly impossible to do these on your own.

With life insurance, many students have already been either provided with life insurance by their parents or grandparents or, in some cases, have felt it important enough to purchase their own policies due to their circumstances. Of course, the most important decision for most students regarding life insurance will be the best beneficiary designation to accomplish their goals and objectives.

On providing information on jointly held property or assets, this can include everything from placing names on bank accounts and car titles, to even more important items like real property and investment accounts.

3. RELEVANCY CONNECTIONS TO COLLEGE STUDENTS – TEACHER'S PERSPECTIVE

Accepting that the aforementioned estate planning concepts are essential to protecting even a college student, how do you make that connection so that the student can understand it? I believe the best way is through a series of factual examples that each has two scenarios. The first, for each example, is the student who does nothing because it "will never happen" to them. The second is the student who realizes how easy it is to protect them and their loved ones by executing some simple estate planning documents that will give them control over what happens if they are faced with a similar situation.

3.1 Factual Situation Number One

College student, Kerry Carr, was going to visit his girlfriend to celebrate the anniversary of their first date. As he was driving on Interstate 29, a semi-truck unexpectedly switched lanes as he was passing the truck. The truck forced Kerry off the roadway, causing it to leave the roadway and flip. Despite wearing a seat belt, Kerry receives serious head injuries and is being kept "alive" via a life support system at the local hospital. Now what happens?

Scenario #1

Kerry's parents are notified of the accident and go to the hospital to find him on life support. His parents are told by the doctor that he "will never recover nor be awake again." They want him removed from the life support, but the hospital refuses to do so without a signed health care directive by Kerry. The medical bills mount daily. It is causing financial ruin for the parents. They seek legal advice to see if they can get a Court Order.

Scenario #2

Kerry's parents are notified of the accident and go to the hospital to find him on life support. His parents are told by the doctor that he "will never recover nor be awake again." They want him removed from the life support. The hospital asks if Kerry has a signed health care directive. Kerry's father gives them a copy naming Kerry's father as his agent. The life support is removed and Kerry is allowed to pass away peacefully.

3.2 Factual Situation Number Two

Billy Bright was a college student who decided to go to Louisiana during Spring Break and help with a community clean-up project through his fraternity. As he was painting, the ladder he was on tipped over and he fell to the concrete driveway injuring his head, shoulder, back and knee. He is going to require multiple surgeries to fix his injury issues and several months of rehab and physical therapy. There is a hospital in the Louisiana city where he is located that specializes in these injuries, so he and his family decide it best for him to stay to get the medical treatment he needs. But, he has just signed a lease agreement on an apartment, purchased a car and is enrolled in college. He can't be present to handle these issues, so what happens?

Scenario #1

He has defaulted on his lease and is being sued by the landlord for non-payment of rent. His car is repossessed by the Shady-Loan Company, who sells it at auction for less than his loan amount and he is being sued for the difference on what he owes. Since he did not sign the papers in a timely manner at his college, he will have to forfeit all of his tuition monies he paid for the semester.

Scenario #2

Billy Bright signed a durable power of attorney naming his father as his agent. His father, on Billy's behalf, had a new person sign a sub-lease on the apartment for the rest of the semester. He then sold his car for more than he owed on it and was able to sign the title over to the new owner. He then went to the Finance Office at the college and signed the papers to get the rest of Billy's tuition money refunded. While there, he also signed the papers to request delayed grades in his classes so he did not waste his first 10 weeks of class attendance.

3.3 Factual Situation Number Three

Bailey Rabbit was a college student who decided to go four-wheeling with a friend of his in order to take a break from studying for final exams. His friend had a couple of four-wheelers and a trailer and told him that he had permission to ride on this farm outside of town that had great trails on it. When they arrived at the farm, the boys set off for a day of fun. However, Bailey decided to race his friend to the next field and when he turned to look back to see where his friend was, he hit a gate at full speed. Bailey died shortly thereafter at the local hospital. Now what happens?

Scenario #1

Bailey was young and in good health and certainly did not see any reason to buy life insurance in college – "that stuff is for old people." So now his parents are responsible for his student loans they co-signed for, his car loan they co-signed for, the medical bills that the parents signed for to get him the medical care he needed without health insurance and are paying the rent on the house where he was living, but needed a co-signer to get, so they agreed to help. These unexpected costs are creating a financial crisis for Bailey's family.

Scenario #2

Bailey was young and in good health, but could see that if anything serious happened to him, that his parents, who had graciously agreed to help him out by co-signing on his loans and house, would be stuck with his debts. So he purchased an inexpensive term life insurance policy whose premiums were based upon a healthy young twenty-year old, just in case. He named his parents as beneficiaries. With Bailey's unexpected death, the monies from his life insurance policy now will pay off his student and car loans, the balance of his house lease, his emergency medical bills and even his funeral expenses so his parents are not left with this substantial financial burden, as well as the emotional one of losing their son.

3.4 Factual Situation Number Four

Chase Manhattan was a freshman college student who worked hard in the classroom and also took a full-time job to not only pay for his expenses, but to also begin investing for his future. By the time he was a Junior, he had been able to save $5,000.00 that he had in a bank savings account and had invested another $5,000.00 in mutual funds that had already grown to $6,500.00. So, he decided he deserved a break and went with three friends on Spring Break to Cancun, Mexico. It was beautiful weather, so he and his friends decided to try scuba diving. Unfortunately, Chase got cramps and signaled the others he was going to return to the boat. He never returned from the shark infested waters. Now what happens?

Scenario #1

Chase had really never thought about the possibility of dying, so had not put anyone else's name on his banking or investment accounts. Now that he is gone, who is entitled to the money and how do they get it? His parents have gone to an attorney who then filed a claim in the Probate Court for them. The cost of trying to obtain Chase's money may be as expensive as the monies available that he worked so many hours and made so many sacrifices to earn.

Scenario #2

Chase knew that there is always a possibility of dying prematurely and unexpectedly, so he decided to add his parents names to all of his banking and investment accounts, just in case. Now his hard earned money has not been lost in legal battles and will not be wasted.

4.0 RELEVANCY CONNECTIONS TO COLLEGE STUDENTS – STUDENT'S PERSPECTIVE

As a finance major, we were required to take courses in insurance and law, both of which had course content about estate planning concepts and techniques. While I found the information "interesting", I did not find the information very "relevant" to my current situation. I was a young, healthy female who was also a student athlete, so I did not really feel the need to actually apply any of the estate planning concepts that were being presented. While I felt like I received a good introduction on estate planning tools, I did not feel any pressing urgency to actually implement any of them.

However, after a tragic automobile accident happened to a close friend of mine, I began to realize that while I may not need all of the estate planning concepts we had covered in class, what if it had been me? What would happen?

It was then that I began to truly see the relevance of what these simple estate planning ideas could actually do for me and my family. But, it would have been a valuable experience to have been able to have the vision before this tragedy to take action and implement some of those concepts for the protection of myself and my family.

Therefore, as a former undergraduate student, it would have been a tremendous help to have case study type examples that undergraduates can relate to in realizing how useful and important estate planning concepts can be, even for college students!

5.0 CONCLUSION

Promoting course relevancy is something that all teachers deal with at all levels on a daily basis. Our paper has set forth how this can be done by using examples that students cannot just understand, but also relate to in order to give them the tools to make responsible decisions regarding themselves and their families. The feedback has been overwhelmingly positive from both the students and even when meeting with parents who give thanks and appreciation for instilling these responsible ideas within their children. It is also good to know that the old adage, “Better safe than sorry” still has its place in our society from both the teacher and student perspectives.

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DO CURRENCY DEPRECIATIONS IMPACT THE TRADE BALANCE? THE EXPERIENCE OF SOUTH AFRICA

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ABSTRACT

While South Africa's rate of economic growth has outpaced the average of the developing world since 2000, large and growing trade deficits remain, despite a truly flexible exchange system. This paper examines the relationship between South Africa's trade balance and the real exchange rate. This is a bilateral approach with each of the five major industrialized countries; The US, Britain, France, Germany and Japan. In a static Monetary/Keynesian two-country equilibrium model of international trade, the estimable form of the trade balance is expressed as variable that depends on the bilateral real exchange rate with the targeted industrialized country, domestic income level and the targeted industrialized country's income level. These variables are modeled as integrated processes. After Unit Root Tests establish the non-stationary nature of almost all of these variables, the paper employs the Johansen Cointegration technique, to investigate the existence of a stable long term relationship between bilateral currency depreciations and the bilateral trade balance with the major industrial nations. The results are generally mixed, with cointegration being confirmed in most cases.

Keywords: *Nominal Exchange Rate, Real Exchange Rate, Bilateral Trade Balance, Unit Root, Cointegration*

1. INTRODUCTION

Since 2000, South Africa's trade balance has worsened noticeably, going from a deficit of just under 1.3% of GDP in 2000 to about 3.5% in 2005 and above 4% in 2008, even as the economy has become more liberalized, see IMF reference; http://www.economywatch.com/economic-statistics (2011) . In this respect South Africa is not unique among Sub Saharan African countries, although it's economic and political experience during the previous two decades probably was. Over the last three decades, South Africa has gradually moved from a very restrictive monetary policy regime to a market oriented financial system. During the 1970's, the nation's monetary policy relied heavily on cash requirements and interest rate controls. A clash in the early 1990's with international banks holding South African debt obligations, led to an intensification of capital controls and a wide range of non-market controls on the country's currency, the rand.

The first universal suffrage election in 1994 ushered in a fresh wave of economic liberalization in trade and monetary policy in general, and exchange rate regime in particular. Along the way the South African Reserve Bank has constantly fought with varying degrees of success to achieve three goals: first, to keep inflation at bay, second to achieve a freely convertible currency, and finally to secure a stable current account balance. This paper uses quarterly data to conduct an empirical examination of the relationship between the exchange rate and South Africa's trade balance.

2. BASIC MODEL

It is generally agreed that a sustained depreciation of a nation's currency will improve its trade balance. This assumes that a nominal depreciation results in a lasting real depreciation of the nation's currency (for at least six quarters), which in turn assumes that a given devaluation will not induce a proportionate offsetting increase in inflation. The Keynesian approach hints at an improvement in the global competitiveness of the nation's tradeable goods following a real exchange rate depreciation. The Monetarist approach contends that a depreciation would induce a reduction in real balances and hence real expenditures, leading to the improvement in the trade balance. To incorporate both approaches, the model that is initially employed involves regressing the trade balance on the real exchange rate (the nominal exchange rate multiplied by the ratio of the foreign to domestic price level), as well as the domestic and foreign income levels, as in Equation 1 see Branson (1983) and Kruger (1983).

$$B_i = a_o + a_1\,(L)\,R + a_3Y + a_4Y^* + e_i \qquad (1)$$

Where: B is the trade balance
Y, Y* are the domestic and foreign real income levels
R is the real exchange rate as previously defined
L represents the unconstrained Almon polynomial distributed lag. For the OLS analysis this study uses the contemporary and 4 period lags.

The trade balance variable employed in this paper is the ratio of the nation's exports to imports. This choice was made to facilitate the use of a log form model as well as to obviate the need to choose a price index to deflate the difference between exports and imports. Thus a rise in this ratio indicates an improvement in the trade balance.

The exchange rate variable that is used is the bilateral exchange rate between South Africa and each of five major industrialized countries; the U.S., the U.K., France, Germany and Japan. The use of this bilateral exchange rate, as opposed to the country's aggregate exchange value, ensures that a depreciation of the rand against one currency would not be neutralized by an equivalent appreciation against another currency.

Many of the earlier studies on this subject employed level data, with notable exceptions being; Miles (1979) who used first-differenced data, and Bahmani, Oskooee and Alse (1994), who conducted stationary tests. However both papers employed aggregate data. On the other hand, Marwah and Klein (1996) did use disaggregated but level data. Since most macroeconomic variables are thought to be non-stationary, there is the risk that using standard Ordinary Least Squares (OLS) techniques can reveal potentially spurious relationships. In addition to the standard OLS analysis, this paper conducts Unit Root and Cointegration tests, using disaggregated data.

3. ANALYSIS OF OLS RESULTS

Following Equation 1, the trade balance is first regressed on the current bilateral real exchange rate and on the domestic and foreign income, with the results shown in Table 1.

TABLE 1: ORDINARY LEAST SQUARE (OLS) RESULTS

Country	REX	DGDP	FGDP	R-square	DW
US	0.219 (1.343)	1.86 (6.392)	3.15 (3.404)	0.804	1.53
UK	0.002 (0.012)	-1.176 (0.552)	0.569 (0.164)	0.547	1.553
France	0.99 (3.714)	12.266 (2.435)	-13.828 (2.574)	0.274	2.005
Germany	0.226 (2.172)	-4.52 (4.276)	8.818 (4.438)	0.365	1.625
Japan	0.178 (1.130)	5.072 (4.015)	-5.595 (1.936)	0.812	0.715

Note: The T-Statistics are in brackets under the respective coefficients.
DGDP and FGDP represent South Africa's and corresponding income levels of each developed country, respectively.

Assuming that a nominal devaluation effects a real devaluation of a nation's currency, then the Marshall-Lerner condition, suggests an improvement in the trade balance. We would expect the sign on a_1 to be positive, to imply that a depreciation has improved the trade balance, given that that the nominal exchange rate is measured as the number of home currency units per unit of the foreign currency,

There is some ambiguity with respect to the coefficients on real domestic income. The reason is that a rise in real income stimulates increased import demand, as well as increased production of tradable goods causing the ultimate effect on the trade balance to be uncertain. It is generally accepted that a rise in the foreign income level almost always boosts the home country's trade balance, see Himarios (1989).

There is the expected positive sign on the current real exchange rate coefficient in all cases although it is statistically significant at the 1% level only in the case of Germany and France. While the coefficients on the domestic and foreign incomes are statistically significant (the U.K. is the exception), there is considerable ambiguity regarding the signs. Economic theory suggests that a relative rise in domestic income accompanied by a fall in the partner country's income, should translate into a deterioration of the trade balance. However, only Germany and the U.K. carry the expected negative sign on domestic income and positive sign on the foreign income.

It might be argued that some of this inconsistency can be attributed to the fact that in Table 1's version of Equation 1, there is only one quarter allowed for all of the effects of the bilateral exchange rate's impact to be captured. When Equation 1 was run with the current and four PDL lags on the real exchange rate (not reported here), the signs generally remained the same as before. Further, as is to be expected, while the inclusion of the four additional lagged exchange rate periods, has the effect of rendering most of these variables statistically insignificant, it does however have the salutary effect of boosting the R^2 noticeably. Finally, we note that while the Durbin-Watson Statistic is at, or somewhat below the optimal 2.0, this latter case indicates the presence of some positive autocorrelation. This analysis of the regression results has raised enough questions to warrant an investigation into whether these variables have a unit root and are thus non-stationary.

4. UNIT ROOT TEST

Table 2 presents both the level and first difference stationarity tests for the South African and developed country variables used in the study, with the null hypothesis being the existence of a unit root. The specific form of the test employed is the Augmented Dickey-Fuller version (ADF), using an intercept in the test equation, see Dickey and Fuller (1979), as in Equation 2:

$$\Delta Y_t = \propto Y_{t-1} + \beta_1 \Delta Y_{t-2} \ldots\ldots \beta 1\ \Delta Y_{t-\rho} + SX_t + V_t \tag{2}$$

Where, Y is a variable

X_t represents regressors such as a constant or a time trend

ρ and S represent the parameters

V_t, the white noise and $\propto = 1- \rho$

TABLE 2: LEVEL AND FIRST DIFFERENCE STATIONARY TEST

	Level Test	First Difference Test
Variable	ADF Statistics	ADF Statistic
SAGDP	0.391257	-9.57202
TBUS	-2.04559	-9.2777
TBUK	-2.51138	-6.14466
TBFRN	-2.27874	-12.2522
TBGER	-2.82875	-9.29523
TBJPN	-2.02298	-6.2734
REXUS	-0.47664	-5.68418
REXUK	-0.13281	-4.6805
REXFRN	-0.12066	-5.33858
REXGER	-1.5073	-7.45414
REXJPN	0.431224	-10.8581
GDPUS	-2.08772	-6.11595
GDPUK	-3.97889	-2.37979
GDPFRN	-3.50833	-2.64275
GDPGER	-3.54369	-10.8925
GDPJPN	-2.93534	-4.07899

Note: TB… represents the trade balance, REX, the real bilateral exchange rate and GDP, the income level, all by country.

In addition, there is an automatic maximum lag length selection following the Schwarz Information Criterion. Although there are minor variations in the individual country sample size, the ADF test critical values for both the level and first difference tests at the 1 percent and 5 percent levels are – 3.47 and – 2.88 respectively. The ADF statistics are reported.

The evaluation rule for the level test is to accept the existence of a unit root if the ADF statistic is either more positive or less negative than the reported critical value, and for the first difference test to reject the existence of multiple roots if the ADF statistic is less negative than the reported critical value. In general, the level test allows us to accept the null hypothesis of a unit root at the 1 percent level. There are a few variables that would marginally cause us to reject this hypothesis, namely the income variable for some of the developed countries. Similarly, the French and U.K. income also fail the first difference test at the 1 and 5% levels.

However, the central variables in this study are the individual bi-lateral exchange rates and the bilateral trade balances. In as much as the only variable to decisively fail both tests is the income, it is fair to conclude that the variables used in this study are non-singular, possessing one root. The weight of this evidence points to the possibility of a long-run underlying relationship between South Africa's trade balance and the exchange rate and income levels. The logical next step is the execution of a Cointegration test to further investigate the existence and nature of any such relationship.

5. THE COINTEGRATION TEST

Following Engle and Granger (1987), if two variables Y and X are shown to contain a unit root and are both I (1), then we can regress Y on X, and writing out that equation with the residual as the dependent variable yields:

$$u_t = Y_t - \beta_0 - \beta_1 x \tag{3}$$

If a unit root test establishes that u is stationary, i.e.: I (0) and is free of stochastic trends, this allows us to state that Y and X are cointegrated, implying that there is long term relationship between them.

The results from the Cointegration tests which employ the Johanssen method, (see Johansen and Johansen (1990)), are depicted in Table 5, and show both the Trace and the Eigen-Value outcomes. For each run, the test is performed to detect the possibility of a cointegrating relationship between South Africa's bi-lateral trade balance, the exchange rates, and its income and that of the targeted developed countries according to Equation 2.

TABLE 3: COINTEGRATION TEST

TRACE TEST										
CE	US	r	UK	r	FRANCE	r	GERMANY	r	JAPAN	r
0	70.834		46.572		71.579		78.243		56.806	
1	32.001		26.781		37.256		30.944		28.179	
2	9.57	2	7.763	0	11.76	2	13.964	2	10.192	1
MAX EIGEVALUE	*TEST*									
CE	US	r	UK	r	FRANCE	r	GERMANY	r	JAPAN	r
0	38.824		19.791		34.323		47.299		28.628	
1	22.439		19.018		25.5		16.979		17.987	
2	9.256	2	6.88	0	7.848	2	13.607	1	10.191	1

Note: r denotes the number of cointegrating equations. The number at the bottom of the columns after the coefficients represent of cointegrating vectors found.

Even though there is a mild disagreement between the Trace and Maximum Eigen-Value tests on the exact number, they both point to at least 1 cointegrating equation between South Africa and four of the five developed countries. Both methods agree (the trace marginally but the Maximum Eigen Value quite decisively) that there is no cointegration at the 5 percent level among these variables in the bilateral relationship between South Africa and the U.K. On the other hand there is strong evidence of cointegration between the bilateral exchange rate and the trade balance with the U.S., France, Germany and Japan, The implication of these results is that while there appears to be an underlying long term relationship for these variables between South Africa and most of these developed countries, no similar relationship is exposed between South Africa and the U.K.

Accounting for this absence of a long term relationship between South Africa and the U.K., at a time when the evidence supports the existence of such a relationship with the other major western industrialized countries, is not only difficult to accomplish, but frankly beyond the scope of this paper. It was noted earlier that a nominal depreciation must result in a lasting real depreciation if the trade balance is to improve. Thus a possible path here is to use a handful of the most significant episodes of nominal depreciations of the rand during the study period, to measure the degree of slippage of the real exchange rate in the subsequent quarters.

The goal would be to observe whether these nominal depreciations appeared to translate into shorter real exchange rate depreciations for the rand against the British pound than against the other developed country currencies. If such slippage is found, and if there is no evidence that the nominal value of the pound was strengthening in the quarters that followed, the only reasonable conclusion to draw would be that the U.K. inflation rate was below not only South Africa's, but also below those of the other four developed countries as well, in those specific quarters. Again, it must be stressed that this is speculation as opposed to scientific reasoning, as this "ad hoc" test would only be examining individual "one-off" episodes of depreciations of South Africa's rand.

6. CONCLUSION

This paper examines the relationship between the real exchange rate and the trade balance by employing several investigative methods. The subject of this study is South Africa and the five primary industrialized countries, namely the US, UK, Germany, France and Japan. After laying out a clear framework for the analysis, OLS regression was used to investigate the relationship between our primary variables. This examination of the modified Keynesian and-Monetarist model yielded some weak evidence that real currency depreciations as well as the domestic and foreign income levels do work in the expected manner to boost the trade balance, but also served to raise issues as to the reliability of these results because of stationary issues.

After stationary tests demonstrate that most of the study variables possess a unit root, Johansen Cointegration tests confirmed that there are multiple cointegration relationships between South Africa and each of the developed countries, with the sole exception being the UK. It was speculated that perhaps a relatively shorter life of real depreciations of the Rand against the pound, could be implicated in the absence of an underlying long term relationship between South Africa's exchange rate and its trade balance with the UK.

For South Africa the clear conclusion is that manipulating the nominal exchange rate can improve its trade balance. Given South Africa's recent worsening trade balance with these countries, it would seem that careful monitoring of these bilateral exchange rates should be, if not a policy, at least an initiative to bring into focus.

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HOW CONSUMERS COMBINE INDIVIDUAL COMMON BRAND ATTRIBUTES AFTER BRAND MERGERS

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ABSTRACT

Despite corporate merger activity reaching $2.4 trillion in 2010, managers have to make instinctive decisions in post-merger branding strategy in the absence of any research on consumer reaction to merger branding. To fill this research gap, in this study, consumers rated two pre-merger brands on common attributes such as attitude, quality and trust and then evaluated the merged brand on the same attributes. This research offers evidence that consumers employ an averaging approach, i.e., the extent of the attribute in the merged brand is usually the mean of the attributes in the pre-merger brands. The findings have implications for managers and also provide insights that would be useful in studying other combinations in cognitive psychology.

Keywords: *Brand Management; Brand Mergers; Concept Combination*

1. INTRODUCTION

Judging by the number and value of deals, corporate mergers are a popular business strategy. According to Thomson Reuters, worldwide mergers and acquisitions rose 23.1% in 2010 to $2.4 trillion whereas merger deals rose 14.2 percent to $822 billion in the United States (De La Merced and Cane, 2011). A majority of these mergers involve the combination of brands formerly competing within the same product category. For example, consider the recent merger of two airlines, United Airlines with Continental Airlines or the acquisition of the Alberto Culver Company by Unilever which combines competing brands across a number of consumer products.

Following managerial practice, most of the research on mergers has focused on the financial aspect: whether the merger creates greater financial value and whether the rationale is justified. Managers have generally devoted little attention to the corporate and product branding issues that arise from a merger. This is revealed in one of the rare inquiries into this issue (Ettenson and Knowles, 2006). In their survey of managers who were knowledgeable about corporate brand strategy in their company's merger, they found that in nearly two-thirds of the cases, corporate brand strategy received low or moderate priority during merger negotiations. They also reported a trend toward expediency in the branding of the new merged company. It can only be speculated that the post-merger branding of *individual product brands* receives even less attention. In similar vein, Basu (2006) observes that while managers pay attention to the savings and synergies from organizational melding, they frequently do not focus on the market benefits arising from branding strategy. As they put it, "Decisions on brand mergers have by and large tended to follow rather than lead with regard to internal decisions." While marketers have directed money and attention to the branding of products and there is an entire body of academic research on the importance to consumers of branding-related issues, there is very little research to guide managers on post-merger branding. A study that provides some insight into how consumers react to brands post-merger would be very useful.

2. THEORY

While there is no literature that directly addresses this issue, there is research in cognitive psychology on how individuals combine every-day nouns and adjectives into compound or composite mental concepts or categories (e.g., Hampton, 1987; Osherson and Smith, 1981; Zadeh, 1965). In this research stream, the focus has been on the relationship between the typicality of the constituent concepts or categories and the typicality in the combined concept (e.g., how typical is "Goldfish" in the category of "Pet Fish" than it is of either of its constituent categories "Pet" and "Fish"). Unfortunately, this literature does not offer any ideas on how individuals combine traits in a combined concept from the common traits of the constituent concepts.

This issue is relevant in the merger of brands because managers want to know how consumers might combine common attributes of individual brands in forming their ideas of those attributes in the merged brand. For example, in the merger of two store brands, if one store was viewed as poor on the service dimension while a second was perceived as high in service, what opinion do consumers have of the potential customer service of the merged store brand?

In the absence of any guidance from previous research, it seems logical that in a merger of two brands, consumers use a simple averaging approach. In other words, they average the extent of a trait in the two brands in arriving at their judgment of the trait in the merged brand. For example, if a consumer rates Brand A at a 60 on a scale of100 in perceived durability and rates Brand B's durability at 80 out of 100, the averaging approach would suggest that the consumer would rate the merged brand's durability as 70 out of a possible 100.

A second issue of interest occurs where the merged brand's name is a combination of the names of the two pre-merger brands. In this situation, does the order of the pre-merger brand names in the merged brand name make any difference in how consumers combine perceptions of individual brand attributes? To illustrate, in a combination of brands A and B, do consumers' perceptions of the attributes in the merged brand change depending on whether the merged brand is named AB or BA? There is no theoretical rationale to expect any difference in consumers' transfer of attributes to the merged brand based on the order of the pre-merger brand name.

3. METHOD

Two popular Indian brands of TV, BPL and Onida were chosen because the product category TV and the brands were very familiar to our respondents and because the two brands were judged to be of equal prominence. The merged brand was named either BPL-Onida or Onida-BPL. Questions were developed focusing on the common and general attributes of brands as perceived by consumers: 1) attitude toward the brand, 2) trust in the brand, 3) brand quality, 4) likelihood of brand purchase and 5) association with the product category TV. Respondents were asked to rate these attributes for the two brands as well as for one of the merged brands (BPL-Onida or Onida-BPL). Multiple questionnaires were developed with the order of brands changed in each to minimize order bias. 153 MBA students at a major university in Mumbai, India, answered the questionnaires.

4. RESULTS AND DISCUSSION

The statistical package SPSS was used to obtain average ratings across the two brands for the five attributes which were then compared to attribute ratings for the merged brand (either BPL-Onida or Onida-BPL) using tests of statistical significance (difference = 0). Non-significant test findings would mean that the ratings of the merged brand were similar to the mean ratings for the pre-merger brands, implying that consumers use an averaging approach, as suggested by the theoretical rationale.
As the figures in Tables 1 and 2 show, for four of the five attributes, 1) trust in the brand, 2) brand quality, 3) likelihood of brand purchase and 4) association with the product category TV, ratings of the merged brand were similar to the mean ratings for the pre-merger brands implying that consumers use an averaging approach. With respect to the fifth attribute, brand attitude, the average of respondents' attitudes toward the pre-merger brands BPL and Onida was significantly greater than their attitude toward the merged brand BPL-Onida (4.12 v. 3.75, respectively). However, even with this attribute, the mean of the attitude ratings for the single brands was not different from their attitude toward the merged brand Onida-BPL. Thus, there was only one exception to the ten expected scenarios, suggesting that for the most part, consumers average their attributes in the pre-merger brands in arriving at the extent of the attribute in the merged brand.

TABLE 1
MERGED BRAND NAME BPL-ONIDA

	Mean for BPL	Mean for ONIDA	Mean of BPL & ONIDA	Mean for Merged Brand BPL-ONIDA	Statistically Significant Difference
BRAND PERCEPTIONS					
Attitude	4.21	4.03	4.12	3.75	Yes
Trust	4.07	3.95	4.01	3.93	
Quality	4.47	4.25	4.36	4.41	
Likely to buy	3.45	3.60	3.53	3.55	
Tv association	3.61	3.51	3.56	3.30	

TABLE 2
MERGED BRAND NAME ONIDA-BPL

	Mean for BPL	Mean for ONIDA	Mean of BPL & ONIDA	Mean for Merged brand ONIDA-BPL	Statistically Significant Difference
BRAND PERCEPTIONS					
Attitude	3.89	4.62	4.26	4.02	
Trust	4.08	4.00	4.04	4.10	
Quality	4.13	4.62	4.38	4.48	
Likely to buy	3.10	3.57	3.34	3.59	
Tv association	3.32	3.52	3.42	3.08	

In addition, the means of the five attributes for BPL-Onida were not statistically different from those for Onida-BPL, suggesting that the placement of the constituent brand's name in the merged brand's name does not influence the transfer of pre-merger brand attributes to the merged brand.
Thus, the general conclusion of this study is that consumers generally use an averaging approach in evaluating common or popular attributes in a merged brand based on their knowledge of the attributes in the pre-merger brands. Also, the order of the pre-merger brand names in the merged brand's name does not affect this transfer of attributes.

This research offers some evidence that individuals may be using an averaging approach in judging attributes in other combined nouns or entities based on their knowledge of the constituent entities or concepts. Therefore, the generalizability of this approach must be studied in future research in cognitive psychology that deals with other entities besides brand merger situations. The research also suggests that managers keep consumers' averaging approach in mind while considering brand merger strategy.

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A CULTURAL PERSPECTIVE OF SUCCESSFUL COFFEE SHOP CHAIN: THE CASE OF CAFÉ FREI

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ABSTRACT

In the globalizing world, we can find that the conventional models and theories for doing business and being successful are valid to a limited extent in the real world. Many entrepreneurs think that it is enough to follow the steps of these theories and the success will be ensured. But in fact, there is not any kind of "recipe book" for doing successful business. Theories can always show only a restricted rationality. The elements of the real world and the economy are not independent from each other. We have to take this into consideration when we make the decision on starting-up a company.
This article shows the case study of Café Frei Ltd., a Hungarian Coffee Shop Chain. We will see the recognizable traits of some mainstream concepts.

"If this is coffee, please bring me some tea; but if this is tea, please bring me some coffee"
– Abraham Lincoln

1. INTRODUCTION

As Heidrich and Réthi (2012) stated all over the world services have become a critical factor in achieving competitive advantage, regardless of the sector of the economy in which they operate. For companies like IBM or GE, services mean the primary source of growth and profit potential in the 21st century. The high quality of service creates a competitive advantage for the traditional service companies, such as Charles Schwab, Marriott Hotel, FedEx and Starbucks. The companies compete not only on the basis of their products, but also with the services they provide. So, globalization sharpens competition.

According to Cowen (2004), critics of globalization contend that even if increased trade promotes material prosperity, it comes with a high spiritual and cultural cost, running roughshod over the world's distinctive culture and threatening to turn the globe into one big, tawdry strip mall. In a certain sense, globalization means a sort of uniformization in all aspects of life. We can say this phenomenon induces the emergence of global culture. As its result, we can recognize that national culture and cultural behaviours have changed over the past few years. The model of Erez and Gati (2004) proposes that globalization, as the macro level of culture affects, through top-down processes, behavioral changes of members in various cultures.

The market is changing as well. Vargo and Lusch (2004, pp. 1-2) argue that "marketing has shifted much of its dominant logic away from the exchange of tangible goods (manufactured things) and toward the exchange of intangibles, specialized skills and knowledge, and processes (doing things for and with), which points to a marketing rationale that integrates goods with services and provides a richer foundation for the development of marketing thought and practice." Briefly, we can recognize marketing has moved from a product-centered view stressing the importance of tangible output and discrete transactions), to a service-centered view with the importance placed on intangibility, exchange processes, and relationships).

2. CULTURE AND SOCIALIZATION PROCESS

Culture has always been a difficult concept to explain and an even more difficult notion to understand. It has been studied by disciplines such as cultural anthropology, sociology and history, and in numerous other academic areas ranging from psychology to cross-cultural business management. Many attempts at a definition have been made, and a wide variety of scholars working in these areas have offered numerous definitions, understandings and notions of culture. These definitions range from the simple to the complex, they often incorporate and extend previous definitions, and sometimes they even contradict prior definitions. Many researchers have used more than one definition of culture, depending on the time the definition was formulated and the subject matter to which it referred.

Some anthropologists explain culture in terms of a map. If a map is accurate and one can read it, then one does not get lost. If a culture is portrayed correctly, one will realize the existence of the distinctive features of a way of life and their interrelationships, and will thus be able to navigate successfully between these features (Heidrich, 2001). One of the most accurate and widely accepted definitions of culture is the one offered by Kroeber and Klukhohn (1952). Their definition shows precisely the many features that form a culture and provides us with a comprehensible notion of culture:

"Culture consists of patterns, explicit and implicit of and for behaviour acquired and transmitted by symbols, constituting the distinctive achievement of human groups, including their embodiment in artefacts; the essential core of culture consists of traditional (i. e., historically derived and selected) ideas and especially their attached values; culture systems may, on the one hand, be considered as products of action, on the other, as conditioning elements in a future action." (Kroeber & Kluckhohn, 1952, p.181)

According to some scholars (Hofstede, 2001; Chhokar, Brodbeck, & House, 2007), the socialization process is a very important part of our culture. Socialization is the process by which children and adults learn from others. We begin learning from others during the early days of life; and most people continue their social learning all through life (unless some mental or physical disability slows or stops the learning process). Sometimes the learning is fun, as when we learn a new sport, art or musical technique from a friend. At other times, social learning is painful, as when we learn not to drive too fast by receiving a large fine for speeding. Positive socialization is the type of social learning that is based on pleasurable and exciting experiences and events. We tend to like the people who fill our social learning processes with positive motivation, loving care, and rewarding opportunities. As the human-beings are social-beings, we always need events and occasions to live our social life. The coffee shop is one of these socialization locations. That's why we will take a look at the relation between coffee consumption trends and culture.

When we would like to set up a company, we follow usually the advice of Kotler. He defines a market as follows: "A market consists of all the potential customers sharing a particular need or want who might be willing and able to engage in exchange to satisfy that need or want" (1988: 63). Given a product or a service, Kotler suggests the following procedure for bringing the product/service to market (note that Kotler assumes the market exists):

1. Analyze long-run opportunities in the market.
2. Research and select target markets.
    a. Identify segmentation variables and segment the market.
    b. Develop profiles of resulting segments.
    c. Evaluate the attractiveness of each segment.
    d. Select the target segment(s).
    e. Identify possible positioning concepts for each target segment.
    f. Select, develop, and communicate the chosen positioning concept.
3. Design marketing strategies.
4. Plan marketing programs.

Organize, implement, and control marketing effort. This was the main reasoning of Café Frei as well.

3. COFFEE CONSUMPTION

Regarding the coffee consumption habits, we see that the coffee is consumed differently in different countries. Basically, we can separate some cafe cultures, which define the coffee consumption habits. We can talk about several coffee cultures, such as the Arab-Turkish, French, American or German, Viennese and Italian.

In the Arab world, even in the XVI-XVII century, there were accepted written laws that if the head of the family did not allow his wife to get grams of coffee per day, this was a valid reason for divorce. In these cultures, the role of coffee is much more of a social role, and they don't consume it because of its stimulant effect. It is typical in a collectivistic culture. We come across this habit in Africa and in some parts of Asia. In China and Korea, tea consumption is more significant than coffee consumption. However, there are examples for Turkish coffee culture in Europe as well, such as in Bulgaria, Serbia, Croatia, and Albania. If we take a look at Figure 1, we can see that in these countries the amount of coffee is less than in other parts of world, because coffee is an important part of social events.

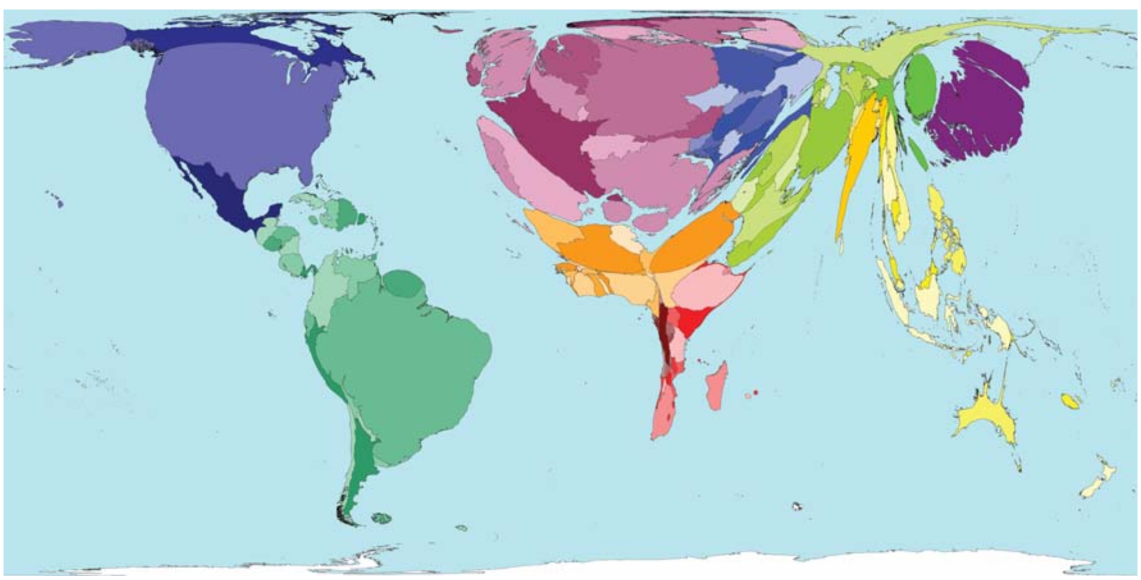
The French coffee culture is similar to the Italian one. Actually, the French coffee culture is a bit closed and had less effects on world coffee culture.

If we consider the American coffee culture, then we can see that people consume a big mug of coffee in conjunction with a casual stroll. It is somewhat less common to sit down in a coffee house with a cake and a coffee whilst talking for hours. It's as if you consume a liquid rather than a stimulant – while this is absolutely not true. But they drink an insane amount of coffee daily, and, therefore, they are on the top of coffee consumption ranking.

In the Viennese coffee culture, coffee is a long drink like in American culture, but it has a really cultural or social role as well. It is no coincidence that the famous Viennese coffee houses involve people sitting down and spending a relatively long time there – it is a real social program.
So, we can see that there is wide range of coffee consumption. It is not an easy task to satisfy the different needs. It is a real challenge.

The United States is currently the world's largest market for coffee. Annual consumption per capita is just over 4 kg compared with 5 kg on average in Europe.

Consumption in Europe varies from around 10 kg per capita per year in the Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) to around 3 kg in the United Kingdom and most of Eastern Europe. The annual consumption of over 5 kg per capita in Brazil is exceptionally high among the over 60 coffee-producing countries. Brazil's annual production of around 2.4 million tonnes (40 million 60-kg bags) makes up a third of the world production of just over 7 million tonnes.



1. Figure Coffee consumption around the world
Territory size shows the proportion of all coffee worldwide that is consumed in that territory.
Source: http://www.worldmapper.org/posters/worldmapper_1038_coffee_consumption_ver2.pdf

4. EUROPEAN AND HUNGARIAN COFFEE CONSUMPTION AND COFFEE MARKET

According to Allegra ProjectCafé11 Europe survey, the UK is the most developed branded coffee shop market with 4,871 outlets and represents 41% of the total European market. Germany and Spain are both well established, with 1,887 and 944 outlets respectively. The fastest growing markets are Slovakia (85 outlets, adding 21 in the last 12 months) and The Netherlands (174 outlets, adding 37 in the last 12 months) albeit from a small base. The growth of specialty coffee and coffee culture continues to be the most influential consumer trend in Europe. Consumers are knowledgeable and demanding, seeking out the most indulgent coffee experience and refusing to settle for sub-standard coffee.

As we can read in a publication of Global Research & Data Services the three leading players in the market are Costa Coffee, Starbucks Coffee Company and McCafé with a combined market share of

34%. In terms of the number of outlets Costa Coffee has 1,444 across 8 countries; McCafé has 1,326 across 14 countries, overtaking Starbucks for the first time in 2011 which has 1,253 outlets across 20 markets. Other influential players include Segafredo Zanetti Espresso, Illy and Wayne's Coffee.

1. Table Top 15 European Branded Coffee Chains in 2010

Rank	Brand	Oct-09	Oct -10	Outlets Added (net)	Growth Rate
1	**Costa Coffee**	**1,047**	**1,248**	**201**	**19%**
2	**Starbucks Coffee Company**	**1,183**	**1,138**	**-45**	**-4%**
3	**McCafé**	**893**	**1,101**	**208**	**23%**
4	Caffè Nero	395	429	34	9%
5	Segafredo Zanetti Espresso	270	270	0	0%
6	Caffè Dallucci	195	234	39	20%
7	Gregory –Coffeeright	220	233	13	6%
8	Caffè Ritazza	320	221	-99	-31%
9	Pret A Manger	195	213	18	9%
10	O'Briens	194	158	-36	-19%
11	Café & Té	144	151	7	5%
12	Greggs	118	140	22	19%
13	Coffeeshop Company	141	134	-7	-5%
14	Espressamente Illy	136	133	-3	-2%
15	Pumpkin	126	123	-3	-2%

Source: Allegra Strategies Ltd.

In markets with an established branded coffee shop culture, branded chain coffee shops will come under increasing pressure to provide an authentic experience that cannot be replicated in the home, especially as more European households have high quality espresso machines, the most popular types being pod/capsule machines.

According to the market leader McCafé's survey in Hungary, at home the espresso is a hit, in coffee shops the specialty coffee is the most popular. 63 % of the respondents most often drink coffee immediately after waking up at home, 25 % at work, 10 % in restaurants and other places. Drinking coffee at home is especially a "whim" for women as more than two-thirds of them drink coffee at home, while only 56 % of men drink it at home.

Those who advocate drinking coffee outside, purchase it mostly in the coffee shop, pastry shop (45 %) or coffee chop chain (25 %). They decide by the quality of the coffee and atmosphere of the place. This group usually consumes coffee locally (59 %), but thanks to the lockable cap the take-away coffee is popular as well. The Hungarian market's leading chains are McCafé, Café Frei, Segafredo and Semiramis. Value for money is critical for success and a high quality coffee offer is essential in order to meet consumers' expectations.

Hungary is characterized by a lesser known American coffee habit – on the street while walking and sipping (2 %), many (35 %) take it with them to their work, and only consume the purchased coffee at work. This may explain why the job was the second rung of the ladder when a person is asked where he/she drinks coffee most often.

Overall, we can say that Hungarian consumers have grown up: it is not the price but the taste and the quality that determines the reason for their choice; we are looking for experience in the coffee, and not its stimulant effect. In addition, many of them think in a responsible way, and are open for sustainable coffee.

In Hungary, the Café Frei is the only branded coffee shop chain, which always offers coffees made from freshly roasted, hand-selected, arabica coffee beans. The Café Frei is also unique in that it offers not only the Italian and French coffee recipes, but the "world's favorite coffees", ie, all major "coffee cuisine" can be tasted in the coffee shops.

The coffee beans are roasted according to the recipe of a Dutch master barista - in many ways. The coffees are mixed in a unique proportion from 26 top-quality plantations of 13 different countries in the world. The gourmets have the options to taste coffees from the different regions separately.

The Café Frei offers a wide range in the shop, according to the customer's needs, from mixed, ground, fresh roasted coffee to books, gifts, accessories of the tea and coffee. Where it is possible, there's room for other cultural events (fine arts, literary and musical works) in the coffee shop.

You can take a trip around the world with the coffees of Café Frei, but the special furniture from Arabia and Africa to South America "reminds" the guests of a world trip, as well as the cakes lined up with favorites from three continents. Wines from Australia to Argentina, provide a "taste-travel" to the guests. The Café Frei is a cosmopolitan, exciting place.

We can say that the operation of Café Frei is the mixture of McDonaldization and Disneyization according to the consumers' and turbulent world's needs. The globalization of services differs from the global deregulation/diffusion of standard products. In a service industry one can distribute only uniform systems. These systems are, however, handled by people with different cultural roots and attitudes, which make uniformity difficult. There are two models of services that are international and prevail in global economy: McDonaldization and Disneyization. The former involves Ford's and Taylor's principles of organizing work in the area of services. The latter also seeks to meet the organizational and human resource requirements of the experience of consumption, the seizing of the moment, which is typical in post-modern societies.

2. Table Recognizable traits of McDonaldization and Disneyization

McDonaldization	Disneyization
predetermined process for employees	theming
predictability	hybrid consumption
efficiency	merchandizing
	performative labour

The Café Frei is a franchise. There are many different types of franchises. Many people associate only fast food businesses with franchising. In fact, there are over 120 different types of franchise businesses available today, including automotive, cleaning & maintenance, health & fitness, financial services, and pet-related franchises, just to name a few. The benefits of franchising include using the franchisee's capital to develop a brand at a local rather than national level. The customer then receives a better and more localised service.
Growing your business can be difficult and expensive. The more you grow, the more capital you need, for example, to finance new outlets. At the same time, managing the business becomes more difficult, particularly if your business is spread across the country. You will need to be prepared to travel around the country when giving support.

5. CONCLUSION

As a conclusion we can state the well known models in literature serve as good “crutch” in entrepreneur's life, but in our turbulent world the role of soft factors of business life (e.g. culture) is on the upgrade. Therefore, we suppose that the models' usefulness is limited, because the environmental factors and the hardly controllable soft factors play more important roles than the “model factors.” The adaptation has a greater role in our life than ever before, and it is important to quickly make the right decisions. The “Café Frei” is another example that the models are not implemented purely real life, but their special blends will be viable (even if at the very beginning of company there is no such awareness about combined use of models).

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THE LOCAL FINANCIAL IMPACT OF A HOSPITAL SYSTEM: ADDITIONAL FACTORS

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ABSTRACT

During 2007, a large hospital system was examined to assess the financial impact exerted by the organization upon its local region. The results of this analysis showed a pervasive and strong financial influence emanating from the hospital system as a provider of health services, as an employer, as a generator of construction projects, as a healthcare system providing unreimbursed care, as an organization that pays taxes to governmental agencies, and as a good citizen of the community. The hospital system added $4.9 billion (17.6%) to the $28 billion local economy.

1. INTRODUCTION

The research project offers an updated valuation of the financial impact that a large hospital system has on its local region (Rotarius, et al., 2003). This new project served as a follow-up to that earlier project in which only limited financial effects of a hospital system were derived and explained. The new financial impact initiatives introduced in this current study include: (1) a new financial impact factor based upon construction expenditures; (2) new financial impact factors that purport to measure (a) the value of unreimbursed healthcare treatment and (b) the taxes paid to governmental agencies; and (3) a more comprehensive list of organizational and employee community benefits.

This research is guided by the following hypothetical question: ***If the hospital system was no longer available to the citizens of the local community, what would be the financial impact on the region?*** This project examines several hospitals and other healthcare facilities that under one parent hospital system that operate within three central Florida counties.

2. THE CENTRAL FLORIDA MARKET

The hospital system identifies its primary service area as the three counties of Orange, Osceola, and Seminole (1.7 million people), with its secondary service area defined as the counties of Brevard, Flagler, Hardee, Highlands, Lake, Polk, and Volusia (2.1 million people). Total retail sales for the Greater Orlando Standard Metropolitan Statistical Area (SMSA) area (which is geographically similar to the three-county region) were estimated at $28 billion *(Florida Trend, 2007)*. All seven counties share one attribute: they all have a high level of uninsured residents (*Health Council of East Central Florida, 2007*). Statewide, the level of uninsured persons in Florida was 19.2% (Florida Health Insurance Studies, 2005). In Orange County, during 2004, 18.7% were uninsured.

3. THE BACKBONE OF THE CENTRAL FLORIDA HEALTH DELIVERY SYSTEM

The three-county region has 16 acute care hospitals, with 3,780 acute care licensed inpatient beds (Health Council, 2007) as well as 953 clinical laboratories, 137 assisted living facilities, and a host of other facilities that include skilled nursing facilities, medical offices, and other ancillary service facilities. Additionally, the health care community of Central Florida employs more than 120,000 professional and technical staff (*Florida AHCA, 2007*). Total payroll of the local health care community is $3.0 billion.

4. RESEARCH METHODOLOGY

A financial impact analysis lends itself to employing a descriptive case study methodology as this method is a useful tool for lending insight to the specific details of a particular program (*Veney and Arnold, 1998*). Data for this project originated from: hospital system documents; government statistics; and business journals. Mathematical multipliers are employed to create a realistic *multiplier effect*. Each category of contribution exerts a distinct financial impact on the Central Florida region. Taken together, the *multiplier* *effect* emanating from these various types of economic contributions produces an accelerated financial impact that touches the entire region. The entire operations of a hospital system located in a three-county region were examined. The total number of employees within this hospital system equaled 15,819 employees, with a full time equivalency (FTE) of 12,255 FTEs.

5. THE MULTIPLIER EFFECT

A characteristic of economic measurement is that one individual dollar is ultimately worth more than 100 cents as it makes its way from one hand to another during its journey through a defined market. In other words, each new dollar added to a community must be increased by a *multiplier effect* if one is to accurately determine the ultimate impact of adding a single new dollar to the economy of that community.

Several multipliers/factors are employed in this study(*Center for Economic Development Research, 2005*): *Employment Multiplier* (1.85); *Income Multiplier* (1.64); *Output Multiplier* (2.20); *Construction Multiplier* (1.41), and *Employee Involvement Factor* ($1,147). An *Employment Multiplier* of 1.85 suggests that every 1,000 jobs in hospital system generates and sustains an additional 850 jobs in the local community. The *Income Multiplier* of 1.64 indicates that every $1,000 in wages or expenses paid by hospital system generates an additional $640 in value out in the community. The *Output Multiplier* of 2.20 indicates that for every $1,000 in hospital spending for goods, services, and payroll, an additional $1,200 in value is generated out in the community. The *Construction Multiplier* of 1.41 implies that each $1,000 investment in new facilities by hospital system represents an additional $410 in added-value throughout the local economy. The *Employee Involvement Factor* of $1,147 (derived from *Rotarius et al., 2003*) states that, on average, a hospital employee in Florida donates $1,147 in personal contributions (either financial offerings or in-kind assistance such as volunteer hours) to worthwhile activities throughout the community.

6. THE HOSPITAL SYSTEM'S FINANCIAL IMPACT ON THE COMMUNITY

The hospital system financially impacts the Central Florida region in the following unique ways:

Contributions as a Health Care Provider	$ 1,758,373,084
Contributions as an Employer	$ 2,488,798,834
Contributions from Construction Projects	$ 333,123,762
Contributions from Unreimbursed Treatment Costs	$ 227,776,189
Contributions from Taxes Paid	$ 22,989,597
Contributions from Employee Involvement	$ 30,924,267
Benefits Associated with Non-Billed Services	$ 7,925,115
Benefits Associated with Education and Research	$ 18,754,712
Benefits Associated with Cash and In-Kind Donations	$ 17,497,328
Benefits Associated with Faith-Based Care	$ 6,149,583
Benefits Associated with Strategic Alliances	$ 21,085,453
The Hospital System's Total Financial Impact on the Central Florida Region	$ 4,933,397,924
Total Retail Sales of the Primary Service Area (*2007 est.*)	$ 28 billion
The Hospital System's Percentage Contribution to the Central Florida Economy	17.6%

Each of these unique contributions is discussed in expanded detail in subsequent sections of the report.

CONTRIBUTIONS AS A HEALTH CARE PROVIDER

These contributions come from the effects of spending in the local market. The hospital system had $576.3 million in non-payroll expenses. These expenses ($576,306,932) are multiplied by the Output Multiplier (2.20) to arrive at the hospital system's contribution to the community as a result of purchasing goods and services from the local community. This value equals $1,267,875,250. In addition, the hospital system had $223.0 million in earnings before depreciation, interest, and taxes (EBDIT), which have not yet been disbursed by the hospital system. However, these dollars will be spent at some point. To calculate the hospital system's contribution to the community as a result of disbursing its earnings, EBDIT ($222,953,561) is multiplied by the Output Multiplier (2.20). This value equals $490,497,834. Combining these two values results in total contributions as a health care provider of $1,758,373,084.

CONTRIBUTIONS AS AN EMPLOYER

In 2006, the hospital system employed 15,819 employees resulting in 12,255 full-time equivalent (FTE) employees. The hospital system paid $665.6 million in wages and $197.6 million in benefits to its employees who, in turn, purchased goods and services with their wages in the local market, thus creating and sustaining non-hospital system jobs in the community. Two different calculations are used to capture the hospital system's total contributions as an employer. First, the sum of wages ($665,572,951) and benefits ($197,575,515) are multiplied by the Output Multiplier (2.20) to arrive at the hospital system's contribution by virtue of employing individuals in the community. This value equals $1,898,926,625.

Next, to determine the community benefit of creating new jobs in the community from the payment of wages and benefits, the number of new jobs needs to be determined. This is done by applying an Employment Multiplier of 1.85 to the number of FTEs (12,255). This results in 10,417 jobs created and sustained outside of the hospital system by virtue of the hospital system employing individuals at the hospital system's facilities. To arrive at the community benefit of these non-hospital system jobs, the number of sustainable jobs is multiplied by an average annual wage amount of $34,528 for all employees in the Central Florida region. Multiplying the Central Florida Region's average wage ($34,528) by the number of sustainable jobs (10,417) results in a value of new payroll of $359,678,176. This figure is then multiplied by the Income Multiplier of 1.64, which results in a contribution value of $589,872,209. Together, these two values produce the hospital system's total contributions as an employer, which equals $2,488,798,834.

CONTRIBUTIONS FROM CONSTRUCTION PROJECTS

The hospital system is a major investor in new facilities in the Central Florida region having spent $236.3 million in construction during 2006. To determine the financial impact to the local community of the hospital system's construction efforts, the Construction Multiplier of 1.41 is multiplied by the construction expenditures ($236,257,987). This value equals $333,123,762.

CONTRIBUTIONS FROM UNREIMBURSED TREATMENT COSTS

In 2006, the hospital system provided $364.4 million in inpatient Medicare services (net of contractual allowances) and an additional $64.1 million in outpatient Medicare services (net of contractual allowances). Collectively, this amounted to almost $430 million in Medicare services to the Central Florida region. As is well documented, Medicare reimbursements are substantially below those of private insurance companies. As shown in hospital system internal documents, the total of unreimbursed Medicare costs is $83,493,073. In 2006, the hospital system provided a combined $104.3 million in Medicaid care (net of contractual allowances). Except for self pay and free care, the hospital system experiences the lowest reimbursement rate for Medicaid patients. As shown on hospital system internal documents, the total unreimbursed Medicaid Costs is $39,488,010.

In addition, in 2006, the hospital system provided a generous amount of charity care. Hospital system financial statements indicate that $285.0 million in charity care was provided to local citizens. According to internal hospital system documents, the cost of charity care was $86,299,438. The hospital system recorded a $61.1 million charge as a bad debt write-off during 2006. To approximate the cost of this provision for bad debt, it is assumed that bad debt would have the same proportion of charges-to-costs as does the charity care category. Therefore, to determine the appropriate percentage for bad debt "costs," the costs of charity care ($86,299,438) were divided by total charity care charges ($284,969,764). This percentage (30.3%) was then applied to total bad debt charges ($61,074,629) to determine the estimated amount of bad debt costs ($18,495,668).

The total contributions from unreimbursed treatment costs equal the sum of the uncollected costs of treatment for Medicare, Medicaid, charity, and self pay patients (which equals $227,776,189. In financial impact studies, the amount of costs that were not reimbursed is not subject to a multiplier effect.

CONTRIBUTIONS FROM TAXES PAID

Even though the hospital system enjoys non-profit status as defined by the U.S. Internal Revenue Service, the hospital system still pays various taxes that provide value to the community. These taxes include payments to Florida's Patient Medical Assistance Trust Fund (PMATF) of $18.0 million, local county property taxes of $2.4 million, and construction impact fees of $2.5 million. In financial impact studies employing multipliers, payments for taxes and tax-like subsidies are not subject to the multiplier effect. Therefore, the total contributions from taxes paid are $22,989,597.

CONTRIBUTIONS FROM EMPLOYEE INVOLVEMENT

The hospital system's employees are engaged in *pro bono* work that benefits, to a great extent, the organizations ministering to the human services needs in Central Florida and the recipients of services who are the beneficiaries of those services. An enormous array of local social programs (for example, serving as a volunteer on a community board or perhaps coaching a youth soccer team) benefited from the voluntary services provided by hospital system personnel. These employees performed these activities without any expectation of being paid for their time and effort. In addition, hospital system employees are actively involved in providing payroll deductions to worthwhile causes. For example, during 2006, hospital system employees had over $835,000 in charitable contributions deducted from their paychecks. To approximate the total value of the hospital system's employee involvement (via both in-kind support and direct payroll deduction) in the community, the total number of hospital system FTE employees (12,255) is multiplied by the *Employee Involvement Factor* of $1,147. Then, multiplying this amount by the Output Multiplier (2.20) results in the projected financial effect of employee involvement of $30,924,267.

ELECTIVE COMMUNITY INITIATIVES

The hospital system engages in elective community initiatives, which are defined by the hospital system as those community activities which are not required of all hospitals. In other words, these elective initiatives represent the unique contributions that the hospital system has purposefully chosen to contribute as an investment in the community for the associated benefit of the citizens of the three counties impacted by the hospital system's facilities. The specific elective community initiatives that follow are named according to the hospital system's internal documents.

BENEFITS ASSOCIATED WITH NON-BILLED SERVICES

These programs and initiatives represent $3.6 million of expenses invested in Central Florida. The community benefits include such items as speaking engagements, providing meeting rooms for worthy causes, membership in key professional associations, and health education promotion activities. The major categories of costs include $1.4 million in promoting health education and $1.8 million in indigent discharge planning. In total, the hospital system spent $3,602,325 for non-billed services. Multiplying this amount by the Output Multiplier (2.20) results in a community benefit of $7,925,115.

BENEFITS ASSOCIATED WITH EDUCATION AND RESEARCH

The hospital system invested $12.6 million in 2006 for education and research activities. Medicare ultimately offset about one-third of these expenses (approximately $4.1 million). Therefore, the net amount expended by the hospital system was $8,524,869. The cost categories of this section include $9.9 million spent training physician interns and residents (before the Medicare offset) plus $1.6 million funding a science program at a local college. In addition, $1.2 million was expended to support medical research. This net amount ($8,524,869) is adjusted by the Output Multiplier (2.20) to arrive at the hospital system contribution to the local community. This value is $18,754,712.

BENEFITS ASSOCIATED WITH CASH AND IN-KIND DONATIONS

Cash and in-kind donations for the hospital system for 2006 represent $8.0 million. A quick perusal of these specific donations indicates that the hospital system believes strongly in both large and small investments to help build better and healthier communities. The sheer number of small-dollar volume investments demonstrates how to spread out benefits in order to reach the grassroots-type organizations that have a potential to affect an individual's life. To determine the amount of community value that the hospital system's $7,953,331 investment creates, the Output Multiplier (2.20) is applied with the resulting hospital system community contribution equaling $17,497,328.

BENEFITS ASSOCIATED WITH FAITH-BASED CARE

The hospital system is a faith-based healthcare provider. The concept of spirituality and believing in a higher purpose than life on earth drives many of the values and beliefs that permeate the organization. This holistic approach to health care represents a benefit to the community at large. Studies have shown that a person's religion and spirituality exert positive effects on morbidity and mortality (*Levin, 1994*). In addition, patients with high levels of religious involvement have been shown to be less likely to suffer from depression-related symptoms and disorders (*McCullough and Larson, 1999*). As identified by hospital system internal reports, faith-based care expenses equaled $2,795,265 for 2006, which, when adjusted by the Output Multiplier of 2.20, provides the hospital system's contribution to the community from their faith-based approach to healthcare of $6,149,583.

BENEFITS ASSOCIATED WITH STRATEGIC ALLIANCES

Strategic Alliances represent relationships forged whereby the hospital system is a recipient of money or in-kind value that will fund worthy projects. The values for the strategic alliances include investment receipts already received from 2004-2006 along with future commitments for investment receipts for the period 2007-2008. The total five-year (2004-2008) strategic alliance investment receipt is estimated to equal $47,921,485 (per *hospital system files*). This means the average yearly investment receipt amount is $9,584,297. To calculate the benefit to the community of these strategic alliances, the average yearly investment receipt is adjusted using the Output Multiplier (2.20). Thus, the hospital system's financial impact to Central Florida resulting from these strategic alliances is $21,085,453.

7. CONCLUSION

The value, in terms of enhancing the quality of life through world-class health care and providing services to all persons in need, regardless of ability to pay, indicates strongly that the loss of the hospital system as a significant financial resource to the Central Florida community would severely impair both the growth plans and the economic development potential of this region. As demonstrated through the conduct of this analysis, the hospital system serves as a major contributor to the economy of Central Florida.

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CAPITAL EXPENDITURE AND STOCK PRICES: A SIMULTANEOUS EQUATIONS APPROACH

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ABSTRACT

The main purpose of this study is to examine whether capital expenditure decision affects stock price over the last ten years, after taking into account of simultaneity bias and efficiency in estimation. Employing 4,007 firm-years from manufacturing industry, I find limited evidences showing value relevance of capital expenditure information by perform Ordinary Least Squares (OLS) analysis. A Hausman test for endogeneity indicates that capital expenditure and stock price are actually endogenously determined. With a system of simultaneous equations, the results from a Three-Stage Least Squares (3SLS) analysis show that capital expenditure level still plays an important role in influencing stock price. Fail to correct for simultaneity bias and efficiency in estimation could have drawn a different conclusion.

Keywords: *Capital Investment, Endogeneity, Value Relevance, Simultaneous-Equations Models*

1. INTRODUCTION

The decision about the amount and timing to perform a capital investment is important, especially for a certain group of company, e.g., manufacturing company. Previous literature (e.g., Kerstein and Kim, 1995) has endeavored and found an association between capital investment and stock price. In view of a possible decline in value relevance of earnings information over years (e.g., Collins et al., 1997), it is possible that value relevance of capital expenditure information over years could also have changed.

On the other hand, deploying Ordinary Least Squares (OLS) analysis to analyze the effect of investment behavior on stock price could have a drawback: it ignores a possible effect from stock price on investment decision. In other words, the conclusion from prior studies could be subject to simultaneity bias. Grunfeld (1960), among other researchers, approximated a company's future expected profit by its market value to examine determinants of an investment behavior. His results showed that market value of firm affected its capital expenditure decision.

The purpose of this study is therefore two-fold: 1) To investigate whether the influence of capital expenditure decision on market value has changed over the last ten years; and 2) To examine whether simultaneity bias exists and if so whether the effect of capital expenditure decision on stock price is still significant after correcting for simultaneity bias.

Using 4,007 firm years of manufacturing firms collected over the period 2001-2010, I find limited evidence showing a significant impact of capital expenditure outflow on stock price by OLS regression. With a suspicion of possible simultaneity bias, I perform a Hausman test for endogeneity and the result indicates that stock price and capital expenditure act as if they are endogenously determined. I deploy a system of simultaneous equation to mitigate the bias. The results from a Two-Stage Least Squares (2SLS) analysis show a positive relationship between capital investment decision and stock price although the relationship is insignificant. After employing a Three-Stage Least Squares (3SLS) analysis to obtain efficient estimators, I find that capital expenditure decision is still positively and statistically significantly associated with stock price. Therefore, the decision about capital investment is still critically informative to stock market, after addressing simultaneity bias and efficiency in estimation.

The remainder of the paper is organized as follows: Section 2 discusses prior studies and motivation for adopting a simultaneous approach. Sample selection, definitions of variables, and descriptive statistics are discussed in Section 3. Section 4 documents the empirical results of Hausman test and coefficient estimations under OLS, 2SLS and 3SLS analysis. Section 5 concludes.

2. LITERATURE REVIEW AND A SIMULTANEOUS EQUATIONS APPROACH

2.1. LITERATURE REVIEW

Classical literature in economics suggested four theories to explain a company's investment behavior: neoclassical theory, accelerator theory, liquidity theory, and expected profit theory. Both neoclassical theory, in which capital expenditure level is determined by company's output and cost of capital services, and liquidity theory, in which capital expenditure level is affected by company's cash flow constraints, have been explored extensively (e.g. Jorgenson and Siebert, 1968; Elliot, 1973; Fazzari and Athey, 1987; Griner and Gordon 1995). On the other hand, expected profit theory, proposed by Grunfeld in 1960, argued that market value of a firm is a better indicator of future profit and it affects company's capital expenditure level.

Another model based on Tobin's Q theory is also proposed to test on investment behavior. Chappell and Cheng (1982), following Malkiel, von Furstenberg, and Watson (1979), used individual firm data rather than industry data to investigate the determinants of investment. They argued "expectations about future profitability influence desired capital-output ratios" and "Tobin's Q reflects the market's valuation of the firm's future profit prospects, and therefore guides investment decisions." Schaller (1990) also indicated that the Q theory of investment is a forward-looking model rather then based on lags of past variables.
In view of Grunfeld's study and Tobin's Q theory of investment, a relation between capital expenditure level and stock price is formulated as follows:

$$CAPX_{\mathrm{it}} = \alpha_0 + \alpha_1 P_{\mathrm{it}} + \mathrm{u}_{\mathrm{it}} \qquad (1)$$

However, stock price per share of firm *i* (rather than Q) is adopted as an independent variable. It can be argued that company's stock price reflects its future profitability and thus affects its desired capital expenditure level.

The information content of capital expenditure has been discussed in the area of accounting and finance research more recently. McConnell and Muscarella (1985) analyzed whether capital market response to capital expenditure announcements is consistent with market value maximization hypothesis. They concluded that for industrial firms, which are allowed to invest in projects that are expected to earn a rate of return greater than market required return, announcements of increase (decrease) of capital expenditures are associated with positive (negative) excess stock returns. Kerstein and Kim (1995) tested whether unexpected capital expenditures provide value relevant information that is incremental to unexpected current earnings. After controlling for size-related differences in predisclosure information, they found that response coefficient on capital expenditures is statistically and positively significant.

The relation between stock price and capital expenditure, as examined in the prior study, can be expressed as follows:

$$P_{\mathrm{it}} = \beta_0 + \beta_1 CAPX_{\mathrm{it}} + \mathrm{e}_{\mathrm{it}} \qquad (2)$$

2.2. A SIMULTANEOUS EQUATIONS APPROACH

Set equations (1) and (2) side-by-side, the following features can be observed:

$$CAPX_{\mathrm{it}} = \alpha_0 + \alpha_1 P_{\mathrm{it}} + \mathrm{u}_{\mathrm{it}}$$

$$P_{\mathrm{it}} = \beta_0 + \beta_1 CAPX_{\mathrm{it}} + \mathrm{e}_{\mathrm{it}}$$

First, if either (1) or (2) is estimated in isolation, coefficient estimator might be subject to simultaneous equation bias. This bias exists since the independent variable in each equation is correlated with its error term. A simultaneous equations approach can thus reduce the bias. Second, such system of equations is underidentified. Exogenous variables are needed in these two equations to estimate coefficient estimators.

Therefore, inspired by Chappell and Cheng (1982), a sales variable is introduced into equation (1). It is suggested, "expected future output will affect desired capital stock" (i.e. investment) from the demand side while expected future profitability will guide investment from the supply side. On the other hand, a revised Ohlson's (1995) model proposed by Collins et al. (1999) is adopted to rebuild the second equation. As a result, a variable of current earnings and a variable of lagged book value of common equity are added into equation (2). The system of simultaneous equations can be restated as follows:

$$CAPX_{\mathrm{it}} = \alpha_0 + \alpha_1 P_{\mathrm{it}} + \alpha_2 SALE_{\mathrm{it}} + v_{\mathrm{it}} \qquad (1a)$$

$$P_{\mathrm{it}} = \beta_0 + \beta_1 CAPX_{\mathrm{it}} + \beta_2 EPS_{\mathrm{it}} + \beta_3 BVPS_{\mathrm{it\text{-}1}} + \varepsilon_{\mathrm{it}} \qquad (2a)$$

The coefficient of either price or capital expenditure can now be obtained. It can be more easily observed if equations (1a) and (2a) are expressed in the following reduced form:

$$CAPX_{it} = \left[\frac{\alpha_2}{1-\alpha_1\beta_1}\right]SALE_{it} + \left[\frac{\alpha_1\beta_2}{1-\alpha_1\beta_1}\right]EPS_{it} + \left[\frac{\alpha_1\beta_3}{1-\alpha_1\beta_1}\right]BVPS_{it} + \left[\frac{\alpha_1}{1-\alpha_1\beta_1}\right]\varepsilon_{it} + \left[\frac{1}{1-\alpha_1\beta_1}\right]v_{it}$$

$$P_{it} = \left[\frac{\beta_2}{1-\alpha_1\beta_1}\right]EPS_{it} + \left[\frac{\beta_3}{1-\alpha_1\beta_1}\right]BVPS_{it-1} + \left[\frac{\alpha_2\beta_1}{1-\alpha_1\beta_1}\right]SALE_{it} + \left[\frac{\beta_1}{1-\alpha_1\beta_1}\right]v_{it} + \left[\frac{1}{1-\alpha_1\beta_1}\right]\varepsilon_{it}$$

Simultaneous equations bias would still exist if one uses ordinary least square (OLS) to estimate the above equations. This bias occurs because $CAPX_{it}$ is affected by ε_{it} and P_{it} is affected by v_{it}, which can be obviously observed from reduced-form equation above. Therefore, in the later section, two-stage least squares (2SLS) and three-stage least squares (3SLS) are introduced to lessen the bias. The difference between 2SLS and 3SLS is that the latter is asymptotically efficient (Greene, 2000).

The main hypothesis tested is stated as:
Hypothesis: Increase in capital expenditure level will cause increase in stock price, after controlling for simultaneity bias and efficiency in estimation.

3. SAMPLE CHARACTERISTICS

Following Kerstein and Kim (1995), this study focus only on manufacturing firms (i.e., firms whose SIC code are in the range of 1000-3999). All necessary data is collected from Compustat/CRSP Merged Database over the period 2011-2010. The firm used in the study must satisfy the following criteria:

1. Financial data needed to calculate the variables is available.
2. It has a December 31 fiscal year end.
3. Its book value of common equity at the end of year *t-1* is greater than or equal to zero.
4. Earnings before extraordinary items for year *t* is positive.

To control for the influence from extreme values, observations at top and bottom one percent of the following variables are deleted: capital expenditure per share, sales per share, price per share, earnings before extraordinary items per share, and lagged book value of equity per share. The final number of sample is 4,007 firm years (974 firms used over 10 years) collected from 27 different two-digit industries.

All variables are measured on a per-share basis and thus divided by the total number of common shares outstanding at the end of year *t* (#25). Capital expenditure ($CAPX_{it}$) is the cash outflow used for additions to the company's property, plant and equipment of company *i* for year *t* (#128). $SALE_{it}$ represents net sales (#12) of company *i* for year *t*. P_{it} is stock price (#24) of company *i* at the end of year *t*. EPS_{it} is earnings before extraordinary items (#18) per share of company *i* for year *t*. Finally, $BVPS_{it-1}$ is the book value of common equity (#60) of firm *i* at the end of year *t-1* divided by the total number of common shares outstanding at the end of year *t*.

Table 2 presents descriptive statistics for pooled sample over test period. The price-earnings ratio is around 28 and the market-book ratio is around 3. Table 3 provides correlation coefficients between variables used in the simultaneous system. Simple correlation coefficients show that stock price and capital expenditure level are positively correlated.

TABLE 2
DESCRIPTIVE STATISTICS (N=4,007)

Variable	Mean	Median	Standard Deviation	Q1	Q3
CAPX	1.435	0.789	1.972	0.324	1.668
SALE	24.916	17.664	24.036	8.372	33.313
P	28.864	24.360	21.380	12.270	40.370
EPS	1.651	1.230	1.582	0.506	2.277
BV	3259.632	526.740	10179.366	138.102	1951.307
MV	9632.084	1188.413	28157.752	298.478	5168.620

BV = Book value of common equity of firm *i* at the end of year *t*, scaled in millions. MV = Market value of firm *i* at the end of year *t*, which is calculated by multiplying price per share by the number of common share outstanding at the end of year t (scaled in millions).

TABLE 3
PEARSON CORRELATION (BOTTOM-LEFT) AND SPEARMAN CORRELATION (UPPER-RIGHT) COEFFICIENTS

PANEL A: Equation $CAPX_{\mathrm{it}} = \alpha_0 + \alpha_1 P_{\mathrm{it}} + \alpha_2 SALE_{\mathrm{it}} + \mathrm{u}_{\mathrm{it}}$

	CAPX	P	SALE
CAPX	1.000	0.523 (0.0001)	0.576 (0.0001)
P	0.368 (0.0001)	1.000	0.537 (0.0001)
SALE	0.372 (0.0001)	0.404 (0.0001)	1.000

PANEL B: Equation $P_{\mathrm{it}} = \beta_0 + \beta_1 CAPX_{\mathrm{it}} + \beta_2 EPS_{\mathrm{it}} + \beta_3 BVPS_{\mathrm{it-1}} + \mathrm{e}_{\mathrm{it}}$

	P	CAPX	EPS	BVPS
P	1.000	0.537 (0.0001)	0.766 (0.0001)	0.604 (0.0001)
CAPX	0.368 (0.0001)	1.000	0.536 (0.0001)	0.588 (0.0001)
EPS	0.719 (0.0001)	0.460 (0.0001)	1.000	0.577 (0.0001)
BVPS	0.542 (0.0001)	0.471 (0.0001)	0.580 (0.0001)	1.000

4. EMPIRICAL RESULTS

In this section, I first employ OLS analysis to examine whether value relevance of capital expenditure information has changed in the last ten years. A simultaneous equations bias is then documented and thus motivates the use of a system of simultaneous equations i.e., two-stage least squares (2SLS) and three-stage least squares (3SLS) analysis.

4.1. ORDINARY LEAST SQUARES (OLS) ANALYSIS

I first deploy OLS analysis to see whether capital expenditure information is still value relevant to stock market in the last ten years, comparing to prior studies. I also perform an OLS analysis on the effect of future profitability on capital investment decision so as to obtain a benchmark. The results are shown in Table 4.

TABLE 4
COEFFICIENTS ESTIMATED BY ORDINARY LEAST SQUARES (OLS) ANALYSIS FOR EACH YEAR (2001-2010) AND ENTIRE POOLED SAMPLE

Year	Investment-behavior equation: $CAPX_{it} = \alpha_0 + \alpha_1 P_{it} + \alpha_2 SALE_{it} + u_{it}$				Price equation: $P_{it} = \beta_0 + \beta_1 CAPX_{it} + \beta_2 EPS_{it} + \beta_3 BVPS_{it-1} + e_{it}$				
	Adj. R^2	α_0	α_1	α_2	Adj. R^2	β_0	β_1	β_2	β_3
2001	0.11	0.579 (3.13)**	0.017 (2.65)**	0.023 (4.92)**	0.31	10.009 (7.00)**	-0.784 (-1.66)	9.008 (9.84)**	0.385 (2.90)**
2002	0.21	0.218 (1.95)*	0.024 (5.23)**	0.018 (5.91)**	0.52	5.200 (5.11)**	1.173 (2.34)**	9.477 (14.38)**	0.187 (1.79)*
2003	0.21	0.137 (0.99)	0.019 (4.34)**	0.022 (6.73)**	0.53	10.175 (8.91)**	0.762 (-1.51)	9.414 (13.20)**	0.608 (5.41)***
2004	0.17	0.174 (1.33)	0.024 (5.82)**	0.016 (5.26)**	0.57	9.924 (10.59)**	-0.188 (-0.49)	7.387 (14.62)**	0.725 (7.60)**
2005	0.27	-0.076 (0.55)	0.032 (8.45)**	0.019 (6.04)**	0.57	10.582 (10.06)**	0.900 (2.13)**	7.321 (14.37)**	0.614 (5.78)**
2006	0.19	0.186 (1.20)	0.029 (6.75)**	0.015 (4.03)**	0.64	8.894 (8.10)**	-0.024 (-0.07)	8.516 (17.65)**	0.790 (7.33)**
2007	0.20	0.280 (1.63)	0.028 (7.08)**	0.016 (3.49)**	0.64	9.290 (6.36)**	0.894 (2.21)**	11.934 (19.88)**	0.146 (1.06)
2008	0.15	0.435 (1.74)	0.033 (3.66)**	0.029 (5.12)**	0.51	7.682 (6.70)**	-0.804 (-2.98)**	4.573 (11.57)**	0.595 (6.26)**
2009	0.27	-0.074 (-0.48)	0.023 (5.13)**	0.029 (6.44)**	0.63	8.650 (6.88)**	0.734 (1.57)	8.575 (16.81)**	0.620 (5.88)**
2010	0.25	0.104 (0.78)	0.020 (5.28)**	0.025 (6.86)**	0.64	8.477 (7.31)**	0.346 (0.80)	8.324 (17.28)**	0.668 (7.26)**
Pooled	0.19	0.197 (4.00)**	0.024 (16.78)**	0.022 (17.23)**	0.55	9.404 (24.02)**	-0.106 (-0.78)	8.213 (45.70)**	0.566 (15.60)**

T-value is shown in parenthesis.
** statistically significant at least at the .05 level.
* statistically significant at least at the .10 level.

The result from an OLS regression on investment-behavior equation shows that stock price is positively and significantly correlated with capital investment. It indicates that a manufacturing company could factor in future profitability when it decides how much to invest. On the other hand, the impact of capital expenditure level on stock price is not clear. In three yearly regression results, I found them positively and significantly correlated. However, in pooled sample, the results do not show such a clear association. This might result from simultaneity bias, which is investigated in the next section.

4.2. HAUSMAN TEST FOR ENDOGENEITY

The intuition behind the test is to examine whether endogenous variable is correlated with error term in the equation in which it appears as an explanatory variable. If it is, OLS estimations are biased and 2SLS or 3SLS will be a more appropriate approach of estimation.

The procedures to implement Hausman test is as follows: first, regressing each of endogenous variables on exogenous variables to obtain an error term. Second, each error term from the first stage is treated as an additional variable in each equation and a *t* test on the coefficient of error term is performed. If it is statistically different from zero, one can conclude that a simultaneous equation bias exists.
Let y_{it} represent the error term from the regression of stock price on the exogenous variables (i.e., sales, current earnings, and lagged book value of common equity). Error term y_{it} then adds into equation (1a) to test for simultaneity. A similar approach can be applied for equation (2a) and an error term w_{it} is introduced. Equations (1a) and (2a) can be expanded as follows:

$$CAPX_{it} = \alpha_0 + \alpha_1 P_{it} + \alpha_2 SALE_{it} + \gamma y_{it} + v_{it} \quad \text{(1b)}$$

$$P_{it} = \beta_0 + \beta_1 CAPX_{it} + \beta_2 EPS_{it} + \beta_3 BVPS_{it\text{-}1} + \theta w_{it} + \varepsilon_{it} \quad \text{(2b)}$$

Equations (1b) and (2b) are estimated using pooled cross-sectional data. The results (not tabulated) show that coefficient estimate for γ is –0.054 with a *t*-value of –19.90 and coefficient estimate for θ is 8.40 with a *t*-value of 3.64. Both coefficient estimates of the error term are significantly different from zero and thus a simultaneity bias exists.

4.3. Two-Stage Least Squares (2SLS) and Three-Stage Least Squares (3SLS) Estimations

2SLS and 3SLS approach can reduce the bias. A set of instrumental variables is identified to express each of the endogenous variables. Motivated by Fazzari and Athey (1987), ten instrumental variables introduced into equations (1a) and (2a) are: four lagged sales variables (net sales per share for year *t-1~t-4*), one contemporaneous (year *t*) and two lagged (year *t-1* and *t-2*) internal cash flow variables (internal cash flow is determined in the following manner: income before depreciation (#13) minus income taxes expense (#16) minus change in deferred taxes (#35) minus interest expense plus interest income minus cash dividend for both preferred stock (#19) and common stock (#21).), two lagged interest variables (difference between interest expense (#15) and interest income (#62) for both years *t-1* and *t-2*), and one lagged capital stock variable (for year *t-1*) (#8).

TABLE 5
COEFFICIENTS ESTIMATED BY TWO-STAGE LEAST SQUARES (2SLS) ANALYSIS ON THE SYSTEM OF SIMULTANEOUS EQUATIONS FOR EACH YEAR (2001-2010) AND POOLED SAMPLE

Year	Investment-behavior equation: $CAPX_{it} = \alpha_0 + \alpha_1 P_{it} + \alpha_2 SALE_{it} + u_{it}$				Price equation: $P_{it} = \beta_0 + \beta_1 CAPX_{it} + \beta_2 EPS_{it} + \beta_3 BVPS_{it\text{-}1} + e_{it}$				
	Adj. R^2	α_0	α_1	α_2	Adj. R^2	β_0	β_1	β_2	β_3
2001	0.15	-0.290 (-1.10)	0.064 (5.57)***	0.014 (2.62)***	0.31	10.040 (7.02)***	-0.364 (-0.59)	8.743 (9.20)***	0.348 (2.53)**
2002	0.23	-0.061 (-0.46)	0.044 (6.57)***	0.014 (4.06)***	0.51	5.191 (5.10)***	1.305 (2.08)**	9.453 (14.26)***	0.176 (1.60)
2003	0.25	-0.426 (-2.44)**	0.045 (7.04)***	0.015 (4.10)***	0.53	10.172 (8.89)***	-0.205 (-0.33)	9.201 (12.64)***	0.570 (4.93)***
2004	0.21	-0.299 (-1.90)*	0.047 (8.14)***	0.010 (2.96)***	0.57	9.890 (10.54)***	0.077 (0.16)	7.311 (14.24)***	0.707 (7.21)***
2005	0.30	-0.558 (-3.66)***	0.054 (10.17)***	0.011 (3.32)***	0.57	10.580 (10.06)***	0.748 (1.38)	7.377 (14.06)***	0.625 (5.73)***
2006	0.23	-0.356 (-1.95)*	0.054 (8.95)***	0.006 (1.31)	0.64	8.885 (8.09)***	7.143 (0.30)	8.446 (16.86)***	0.779 (7.07)**
2007	0.22	-0.063 (-0.33)	0.043 (8.20)***	0.008 (1.64)	0.64	9.310 (6.36)***	0.764 (1.45)	11.986 (19.48)***	0.155 (1.11)
2008	0.20	-0.510 (-1.64)	0.091 (6.59)***	0.014 (2.11)**	0.50	7.738 (6.74)***	-0.532 (-1.63)	4.444 (10.97)***	0.569 (5.88)***
2009	0.29	-0.408 (-2.32)**	0.040 (6.72)***	0.021 (4.09)***	0.63	8.746 (6.93)***	1.278 (2.12)**	8.487 (16.48)***	0.562 (4.96)***
2010	0.27	-0.195 (-1.29)	0.035 (6.90)***	0.018 (4.25)***	0.64	8.469 (7.30)***	0.582 (1.05)	8.270 (16.92)***	0.650 (6.80)***
Pooled	0.23	-0.389 (-6.41)***	0.053 (24.46)***	0.011 (7.80)***	0.55	9.401 (24.00)***	0.137 (0.74)	8.126 (43.87)***	0.547 (14.57)***

T-value is shown in parenthesis.
*** statistically significant at least at the .01 level.
** statistically significant at least at the .05 level.
* statistically significant at least at the .10 level.

The first stage of 2SLS and 3SLS is to regress each of exogenous variables on all the predetermined variables in the system (i.e., ten instrumental variables as well as $SALE_{it}$, EPS_{it}, and $BVPS_{it-1}$) to derive an estimate of each endogenous variable that is uncorrelated with the error term. In the second stage each of the original endogenous variables are replaced with the estimates from the first stage and an OLS regression analysis is performed on each equation.

Following Beaver, McAnally, and Stinson (1997), the coefficients of ten instrumental variables are constrained to be zero in the final system of equations. This condition would "permit a relatively straightforward interpretation" of the coefficients of stock price and capital expenditure.
The results estimated by 2SLS are presented in Table 5. All the coefficients on stock price are positively significant. On the other hand, coefficients on capital expenditure are only positively significant in two yearly estimations. In a pooled sample, capital expenditure investment shows a positive influence on stock price, although the relationship is not significant.

Table 6 provides the results of 3SLS estimation. In an overidentified system, 3SLS uses the variance-covariance matrix of residuals and produces a more efficient estimation than 2SLS. The results of 3SLS estimation are similar to 2SLS, in terms of the effect of future profitability on capital investment decision. The level of capital expenditure is shown to be positively and significantly related to stock price. Therefore, capital expenditure information is still value relevant to stock market, after addressing for simultaneity bias and efficiency in estimation.

TABLE 6
COEFFICIENTS ESTIMATED BY THREE-STAGE LEAST SQUARES (3SLS) ANALYSIS ON THE SYSTEM OF SIMULTANEOUS EQUATIONS FOR EACH YEAR (2001-2010) AND POOLED SAMPLE

		Investment-behavior equation: $CAPX_{it} = \alpha_0 + \alpha_1 P_{it} + \alpha_2 SALE_{it} + u_{it}$			Price equation: $P_{it} = \beta_0 + \beta_1 CAPX_{it} + \beta_2 EPS_{it} + \beta_3 BVPS_{it-1} + e_{it}$			
Year	R^2	α_0	α_1	α_2	β_0	β_1	β_2	β_3
2001	0.41	-0.558 (-2.17)**	0.084 (7.80)***	0.006 (1.15)	9.095 (6.50)***	3.117 (5.71)***	6.130 (6.90)***	0.220 (1.77)*
2002	0.50	-0.086 (-0.65)	0.050 (7.73)***	0.009 (2.94)***	4.598 (4.56)***	4.166 (7.11)***	7.805 (12.15)***	0.110 (1.07)
2003	0.55	-0.474 (-2.71)***	0.052 (8.32)***	0.009 (2.80)***	9.851 (8.68)***	3.303 (5.80)***	7.357 (10.68)***	0.424 (3.99)***
2004	0.55	-0.359 (-2.29)**	0.054 (9.63)***	0.004 (1.43)	9.348 (10.03)***	2.877 (6.19)***	6.135 (12.55)***	0.584 (6.36)***
2005	0.59	-0.648 (-4.27)***	0.061 (12.04)***	0.006 (1.87)*	10.524 (10.13)***	4.195 (8.57)***	5.647 (11.52)***	0.459 (4.61)***
2006	0.61	-0.401 (-2.19)**	0.056 (9.57)***	0.004 (1.14)	8.589 (7.90)***	2.873 (6.59)***	7.099 (14.92)***	0.639 (6.25)***
2007	0.58	-0.101 (-0.53)	0.046 (8.87)***	0.006 (1.23)	8.415 (5.82)***	3.311 (6.66)***	10.479 (17.50)***	0.115 (0.86)
2008	0.54	-0.742 (-2.41)**	0.107 (8.09)***	0.009 (1.46)	7.511 (6.67)***	1.471 (5.02)***	3.504 (9.28)***	0.429 (4.86)***
2009	0.61	-0.467 (-2.66)***	0.046 (8.02)***	0.015 (3.15)***	8.730 (6.99)***	4.031 (7.19)***	7.118 (14.39)***	0.443 (4.19)***
2010	0.60	-0.264 (-1.76)*	0.040 (8.19)***	0.013 (3.35)***	8.180 (7.09)***	3.222 (6.10)***	7.204 (15.24)***	0.540 (5.93)
Pooled	0.55	-0.423 (-6.99)***	0.058 (27.59)***	0.007 (5.38)***	8.899 (23.02)***	3.429 (20.64)***	6.455 (36.94)***	0.410 (11.98)***

T-value is shown in parenthesis.
*** statistically significant at least at the .01 level.
** statistically significant at least at the .05 level.
* statistically significant at least at the .10 level.

5. CONCLUSION

In view of possible endogeneity of stock price and capital expenditure, 2SLS and 3SLS approach are introduced to estimate the relation between them. Employing 4,007 firm years of manufacturing firms over the period of 2001-2010, a positive and significant association between stock price and capital expenditure is found after mitigating simultaneous equations bias and addressing for efficiency in estimation. It can thus be concluded that capital expenditure information still has value relevance to stock market over the last ten years. Without taking into account of simultaneity bias and efficiency in estimation, a misleading conclusion could have been reached.

One limitation in this paper is that the difference observed in the OLS and 2SLS or 3SLS estimations may result from the misspecification of instrumental variables rather than the superiority of simultaneous equations approach. Meanwhile, the assumption of independence among instrumental variables is possibly violated.

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