IABE-2010 Las Vegas- Proceedings, Volume 8, Number 1, 2010 ISSN: 1932-7498

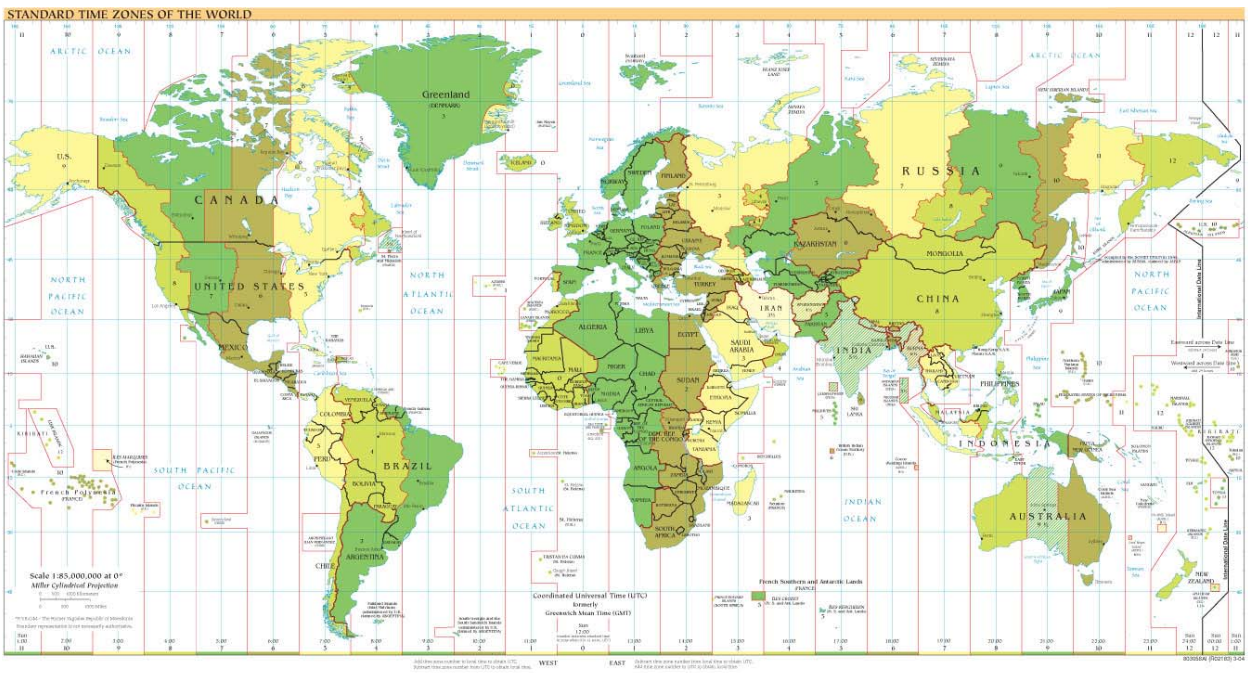
PROCEEDINGS

of the

IABE-2010 Las Vegas- Annual Conference

Las Vegas, Nevada, USA

October 17-20, 2010



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Warmest regards,

Tahi J. Gnepa, Ph.D. Bhavesh Patel, Ph.D. Scott Metlen, Ph.D.

October 17, 2010
Las Vegas, Nevada, USA

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SEVERITY OF DISCIPLINE FOR SUBORDINATE ERRORS:
SUPERVISOR-SUBORDINATE AGREEMENT AND THE EFFECTS OF MARKETABILITY

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ABSTRACT

A framework of errors and choices of discipline is developed and tested in 47 supervisor-subordinate dyads. Attribution, hedonic relevance, and avoidance theories were used in developing the framework and are potential explanations for the results. Results show that subordinates expect less severe punishment than their supervisors would mete out. The results support attribution theory. There was no evidence supporting self-serving bias of the supervisor in discipline situations. Self-serving bias may only occur in positive situations. Marketability did not effect the discipline.

***Keywords**: supervisor-subordinate relations, discipline, attribution theory, hedonic relevance, avoidance, self-serving bias*

1. INTRODUCTION

There have been many published studies of antecedents and consequences of poor performance. Theoretical bases for these studies have been drawn mainly from attribution theory, modified by the discovery of wide-spread use of self-serving bias by both supervisors and subordinates. Given the impact of attributions and self-serving bias on both performance appraisal and employee and organization goal accomplishment, recommendations as to what organizations should do to respond to poor performance range from doing nothing, to discussing the problem, to modifying the job or situation, to punishing the subordinate. Beyer and Trice (1984), in reviewing the literature, concluded that there has not been much study of the use of negative sanctions, and that punishment is probably counter-productive.

Meyer, Kay, and French (1965) found that the most criticized performance aspect of a subordinate got worse after the criticism. Yet O'Reilly and Weitz (1980) found that performance improved after sanctions were applied. Further, Klaas and Dell'Omo (1991) found that more managers (37 percent) used retribution to deal with employee drug use than any other form of response, and Miner and Brewer (1976) found that 44 percent of managers used the threat of discipline and found it effective.

Given the widespread use of punishment, this study examines the choice of a response by a supervisor across 26 situations where subordinates have made errors. The response is drawn from a set of responses offering variations of the three types found in the literature: do nothing, change the procedure or job, or punish the subordinate (Beyer & Trice, 1984; Dobbins, Pence, Orban, & Sgro, 1983; Goodstadt & Hjelle, 1973; James & White, 1983; Klaas & Dell'Omo, 1991; Mitchell & Kalb, 1981; Mitchell & Wood, 1980; O'Reilly & Weitz, 1980; Pence, Pendleton, Dobbins, & Sgro, 1982). The use of a modified repeated measures method follows from James and White's (1983) call to develop situational typologies to test the reliability of management responses across situations as well as extending the policy capturing approach used by Klaas and Dell'Omo (1991).

In addition to examining the use of punishment rather than situation modification for more severe errors, two other research questions are addressed: Is there agreement between supervisor and subordinate as to the response? And, does the marketability of the subordinate affect the choice of response?

Given the error, attribution theory and self-serving bias (of both the supervisor and subordinate), would lead to the subordinate perceiving that their supervisor would choose a less severe response than what the supervisor would choose. More marketable subordinates may receive less punitive responses than less marketable subordinates.

2. LITERATURE REVIEW

2.1 Factors Affecting the Choice of Punishment as a Response to Poor Performance

Drawing on attribution theory, many studies of poor performance have measured the appropriateness of a variety of responses to a given situation, using group factorial designs while manipulating the attributions for poor performance. Attributions for poor performance that have been examined are the subordinate's ability and effort (Ashkanasy, 1991; James & White, 1983; Pence et al., 1982; Smither, Skov, & Adler, 1986; Tjosvold, 1985), the control over the performance, either internal or external (Ashkanasy, 1989; Dobbins & Russell, 1986b; Fedor & Rowland, 1989; Green & Liden, 1980; James & White, 1983; Mitchell & Kalb, 1981; Mitchell & Wood, 1980; Pence et al., 1982), and the permanence of the attributed cause for the poor performance (Pence et al., 1982). These studies have shown that the appropriateness of responses, such as doing nothing, changing the job or situation, or punishing the subordinate, are related to the supervisor's attribution of the cause of the poor performance.

Punishment for poor performance is greater when there are internal attributions of control (Ashkanasy, 1989; Dobbins et al., 1983; Dobbins, 1985; Dobbins & Russell, 1986b; James & White, 1983), when face-to-face meetings do not occur (Gioia & Sims, 1986), when the subordinate is not liked by the supervisor (Dobbins & Russell, 1986b), when there is little supervisor-subordinate interdependence (Ilgen, Mitchell, & Fredrickson, 1981), when the supervisor has higher power (Kipnis, 1972), when the attribution for poor performance is lack of effort rather than lack of ability (James & White, 1983; Pence et al., 1982; Smither et al., 1986), when the organization does not emphasize cooperation (Klaas & Dell'Omo, 1991), when the subordinate is male (Pence et al., 1982), and when no accounts, apologies, or excuses are offered (Wood & Mitchell, 1981).

The use and extent of punishment are also greater when the consequences of the behavior are either known or more serious. Klaas and Dell'Omo (1991) found that the perception of the degree of severity of an offense was related to the consequences of the offense. The more costly the consequences, the more severe the offense. Mitchell and Kalb (1981) found that more severe punishment followed errors with greater consequences. However, Mitchell and Wood (1980) found that the attribution was a more powerful predictor of the intended response than was the seriousness of the outcome.

The goal of punishment is to improve organizational performance. Green, Fairhurst, and Snavely (1986) found that managers reported better problem resolution when more punitive control tactics were used. Supervisors rate punishment as more effective at resolving the problem than do subordinates (Dobbins & Russell, 1986a). The use of punishment for certain situations may follow from employee expectations. O'Reilly and Weitz (1980) found that punishment is expected by subordinates, and that failure to invoke sanctions may lead to loss of control and unproductive behavior. Giles and Mossholder (1990) contend that employees expect punishment for poor performance. However, the use of severe punishment has drawbacks. Beyer and Trice (1984) found that after the first suspension, further discipline had negative effects on the employee's performance. Larson (1989: 411) found that when supervisors do respond to poor performance "(t)he end result is likely to be more negative and more destructive" due to the buildup of severity of offenses prior to taking action. Heerwagen, Beach, and Mitchell (1985) found that costly solutions, such as punishment, are not chosen, regardless of appropriateness. In conclusion, the use of punishment in organizations to improve performance is widely practiced, but whether it accomplishes improvement is debatable.

Other responses, seen as more constructive, are changes in procedures or the job (Dobbins et al., 1983). Pence et al. (1982) found that working with the employee to correct the problem was appropriate when the cause for poor performance was lack of ability or task difficulty. Klaas and Dell'Omo (1991) found that such corrective discipline was used more when employees showed remorse and promised to change, and when employees fulfilled past promises to change. However, Goodstadt & Hjelle (1973) found that supervisors resort to punishment when less assertive forms of influence are ineffective, or when the problem is disciplinary.

Other studies have focused on the types of response patterns that supervisors use to motivate their employees in situations of poor performance. Green et al. (1986) examined the use of support, escalation of control, and reliance on discipline and the severity of the problem given a chain of problems and found that more severe problems led to more punitive actions and less positive support. Klaas and Dell'Omo (1991) examined the use of three decision rules: retributive, corrective, and individual rights, in light of the economic needs of the organization, and found that 37 percent of managers used retributive styles and 35 percent used corrective styles. O'Reilly and Weitz (1980) studied confrontive, difficulty with firing, employee orientation, and complete documentation styles and found that complete documentation and increased use of sanctions are adopted over time by successful managers. Regardless of the style used, consistency of response across conditions and employees is important, it is correlated with employees' satisfaction and equity (Dobbins & Russell, 1986b; Klaas & Dell'Omo, 1991; O'Reilly & Weitz, 1980). This may be due to the existence of accepted norms of justice and the legitimacy of the response given the conditions leading to the response (Klaas & Dell'Omo, 1991; O'Reilly & Weitz, 1980).

It is hypothesized that minor errors will lead to responses of doing nothing or changing the job, and major errors will lead to responses of punishing the employee.

Many of the studies cited were conducted in the lab, with students taking the part of supervisor. Thus there have been many calls for field studies examining what supervisors choose to do to help subordinates perform successfully (Ashkanasy, 1991; Beyer & Trice, 1984; Tjosvold, 1985). In the field a supervisor can choose only one response to a given situation. Also, an important difference in the field is that a supervisor's response to a given situation may be only a part of a chain of situation-response-situation-responses (Fedor & Rowland, 1989; Green et al., 1986; Ilgen & Favero, 1985).

Rather than focusing on the conditions of the supervisor and the subordinate, the situations studied here (see Table 1) vary the type of error and the cost to the organization and examine the type of response selected. Beyer and Trice (1984) found that specific situational variables were the most significant predictors of discipline. Tjosvold (1985) called for study of situational conditions that mediate influence. Ilgen and Favero (1985) have suggested that supervisors do not distinguish well between the behaviors of the subordinate and the consequences of those behaviors, supported by Green and Liden (1980). Although freeing the attributions to the subordinate limits the generalizability of the findings, studying the effect of the characteristics of the situation on the response, in a field study pairing supervisors and subordinates, provides insights into previously unstudied areas.

2.2 Supervisor-Subordinate Agreement about the Response

Attribution theory would support the hypothesis that supervisors will be more punitive than subordinates expect. This is due to the fact that subordinates perceive their performance as higher than their supervisors perceive it (Dugan, 1989; Harris & Schaubroeck, 1988), and the internal-external attributions made by supervisors and subordinates following poor performance (Fedor & Rowland, 1989; Mitchell & Kalb, 1982; Mitchell & Wood, 1980). Hedonic relevance and avoidance theories as well as the political and motivational uses of performance appraisals would support that supervisors will be less punitive than subordinates would expect (Hogan, 1987; Larson, 1989; Longenecker, Sims, & Gioia, 1987). Underlying the choice of response given poor performance is the use of threat as opposed to actually having to apply the sanction: the paper-people, paper-situation problem. This problem is expected to bias the supervisors to choosing more severe responses, and to bias the subordinates to choosing less severe responses.

TABLE 1
ERROR SITUATIONS GROUPED ACCORDING TO AREA AND EXPECTED SEVERITY (LEAST TO MOST)

Production.
1. An error has been made in scheduling that can be corrected at a cost of $50.
2. An error has been made that will cause one day of overtime to be worked for the production facility.
3. An error has been made that will involve a line changeover that will involve great cost.

Supply ordering.
1. An error has been made that can be corrected with a phone call.
2. An error has been made that can be corrected with one day of work by the employee.
3. An error has been made that will involve a plant or office shutdown.

Customer Handling.
1. The relationship with a minor customer has been affected so that the customer seeks out other suppliers, but does not actually act.
2. An error has been made that results in a minor customer complaining to the superior.
3. The relationship with your largest customer has been affected so that the customer seeks out other suppliers, but does not actually act.
4. The minor customer starts to reduce his business with you.
5. An error has been made that results in the largest customer complaining to the supervisor.
6. The minor customer stops doing business with you.
7. Your largest customer starts to reduce his business with you.

Marketing.
1. An error has been made that allows customers to go to competitors for their needs.
2. An error has been made that allows competitors to make significant inroads into your market.
3. An error has been made that allows the competition to shut you out of the market.
4. An error has been made that will force the company to close.

Personal Relations.
1. An outside personal conflict is mildly affecting your subordinate's performance.
2. A minor conflict between two of your subordinates causes some of their time to be spent in counterproductive activity.
3. A conflict between your subordinate and their subordinates is resulting in some minor problems.
4. A conflict between two subordinates is causing the loss of half of their time to the company.
5. An outside personal conflict is severely affecting your subordinate's performance.
6. A conflict between two subordinates has caused the complete breakdown of the effectiveness of both.
7. A conflict between your subordinate and their subordinates is causing major problems.
8. A conflict between your subordinate and their subordinates has caused a work stoppage.
9. An outside personal conflict is making your subordinate's performance totally useless.

It is hypothesized that, given the severity of the error, differences in subject area of the error will not affect the choice of response.

Differences in attributions are heightened in conditions of poor performance: Subordinates make external attributions and supervisors make internal attributions (Ashkanasy, 1989; Dobbins & Russell, 1986a; Gioia & Sims, 1985), leading to blame and punishment when the consequences are known and negative (Mitchell & Kalb, 1981). This self-serving bias would lead to subordinates choosing a job or situation change as appropriate, whereas the supervisor would choose to change the subordinate's behavior, possibly through punishment.

Moreover, Smither et al. (1986) found differences between supervisors and subordinates as to the perceived causes of poor performance, hence disagreement about the corrective actions that should be taken would be expected. Differences as to the appropriateness of response may also be due to the informational clues in the relationship and their interpretation (Fedor, Eder, & Buckley, 1989).

Wood and Mitchell (1981) call for research on the disagreement of information sources. These sources of disagreement may lead to even greater exhibition of self-serving bias. Importantly, Green and Liden (1980) found agreement as to appropriateness of control responses.

However, it has been shown that self-serving bias is reduced following face-to-face meetings (Dugan, 1988; Greenberg, 1991). Hence, in a long-standing supervisor-subordinate dyad, where there have been many face-to-face meetings, better agreement as to the appropriate response would be expected.

An aspect of self-serving bias that confounds this hypothesis is that external attributions of the cause of poor subordinate performance can suggest poor supervision, reflecting badly on the supervisor (Fedor & Rowland, 1989, Ilgen & Favero, 1985; Knowlton & Mitchell, 1980). This may be because supervisors' jobs are usually structured so that subordinate performance is needed for supervisor success (Tjosvold, 1985). For example, managers are more likely to cite themselves as causing subordinates' failure than are the subordinates likely to cite the supervisor (Gioia & Sims, 1985; James & White, 1983; Smither et al., 1986). However, Dobbins & Russell (1986a) found equal attribution, subordinates attributed low group performance to the supervisor and vice-versa.

These exhibitions of self-serving bias leading to the supervisor blaming themself for subordinate poor performance follows from hedonic relevance. When interdependence is high, poor performers are seen, by supervisors, as having higher performance and higher ability than when interdependence is low (Ilgen et al., 1981). Greenberg (1991) found that supervisors inflate performance appraisals to make themselves look like they are performing better, particularly when they functioned as both coach and judge. Furthermore, avoidance theory supports this form of self-serving bias.

Benedict and Levine (1988) found that supervisors were reluctant to convey negative feedback, so they inflate performance appraisal ratings. Supervisor guilt may also lead to leniency in appraisal and punishment (Mallinger & Greiner, 1980). An interesting twist to this interdependency is that when a low performing subordinate rejects the supervisor's aid via lack of effort, the supervisor may be even more punitive than otherwise (Tjosvold, 1985).

Thus it is hypothesized that in long-standing successful supervisor-subordinate dyads there will be agreement as to the expected response given a subordinate error. This hypothesis is supported for two reasons. First, unsuccessful subordinates are screened out – they are no longer part of the dyad. Second, the supervisor will self-attribute part of the blame for the error.

2.3 Subordinate Value

Green and Liden (1980) attributed some of the moderating effects on control to the value of the subordinate, more valued subordinates received more mild control. Klaas and Dell'Omo (1991) found that managers were unlikely to terminate an employee who would be difficult to replace. Benedict and Levine (1988) and Longenecker et al. (1987) found that more marketable subordinates received higher performance ratings.

It is hypothesized that the supervisors of more marketable subordinates will choose less punitive responses than the supervisors of less marketable subordinates.

3. METHOD

3.1 Participants

Forty-seven supervisor-subordinate dyads from 6 companies in a large eastern Canadian city participated in this study. Each supervisor was paired with only one subordinate, and was not the subordinate paired with their supervisor. All participants were employed full-time.

3.2 Procedure

The situations (see Appendix) and the response set (Figure 1) were developed and pretested using 5 supervisors at one non-participant company. The questionnaire developed from the pretest results was shortened due to concerns for the anonymity of the participants and the length of time necessary to answer the questions. Choosing a response to an error, which might involve punishment, and being linked dyadically to a supervisor or subordinate, was of high enough concern in the pretest that all demographic and work history related questions were eliminated from the final version.

The personnel director at each company received more than a sufficient number of pairs of questionnaires for all possible dyads, distributed them, collected them, and returned them to the author. Participants filled out the questionnaires either at work or home. There were large number of non-respondents, including both members of dyads, and individual members of dyads, leaving only 47 usable pairs from the 200 sampled. The questionnaires contained instructions, an example, and the seven response choices on the first page, the twenty-six error situations on the next two pages, and questions concerning ease of the subordinate finding a job and being replaced, and the job area on the last page. Questionnaires were worded to reflect the subordinate making the error and choosing the response they expected, or the supervisor choosing a response to a subordinate error.

3.3 Independent Measures and Experimental Design

There were three independent variables measured: Supervisor or subordinate status in the dyad, the work area of the dyad, and the marketability of the subordinate. A control variable for company was used to check across-company response variation. The status of the respondent was measured by the return of the appropriately worded questionnaire. Work areas available for choice were: Production Management, Supply Procuring, Customer Handling, Marketing, Personnel, and Other. These categories reflected the areas that the error situations were drawn from. There were two questions concerning marketability: how easy would it be for you (your subordinate) to find another job, and how difficult would it be to replace you (your subordinate)? The responses to these questions were five point Likert scales ranging from extremely difficult to extremely easy. The dyads' responses to these marketability questions were categorized into agreement/disagreement and high/medium/low marketability.

3.4 Dependent Measure

The seven categories of the dependent variable (Table 2) vary in two dimensions: control over the initiation of the response (subordinate in 2 and 3, supervisor in 4, 5, 6, and 7), and extent of punishment (none in 1, 2, 3, and 4; some in 5, more in 6, and termination in 7). The responses exemplify doing nothing (1), informing (2), apologizing and help seeking (3), exertion of control and help providing (4), job/situation modification (5), moderate punishment and modification (6), and termination (7). Although this categorization does not provide detail in the typical penalties found in progressive discipline situations (oral warnings, written warnings, suspension, termination), the vagueness of categories 5, 6, and 7 allow these to be inferred, and were deemed sufficient by the pretest respondents to cover the punishment responses of almost all companies and situations. Similarly the categories 2, 3, and 4 were sufficient to cover the multitude of variations of workday interactions of supervisors and subordinates when errors occur.

TABLE 2
RESPONSES TO ERRORS

1. Do and expect nothing.
2. Expect your subordinate to explain the situation, and accept that explanation with no questions and no hard feelings.
3. Expect your subordinate to explain the situation, then discuss the matter further.
4. Initiate a serious discussion of the problem.
5. Severely restrict your subordinate's work activity and responsibilities.
6. Threaten termination and severely restrict your subordinate's work activity.
7. Terminate your subordinate.

4. RESULTS

4.1 Situation Consequences and the Severity of Response

In general, as hypothesized, situations exhibiting more severe impact on the company resulted in more severe punishment, from both the supervisor's and the subordinate's perspective. For example, as seen in Table 3, the increasing severity of the three production scheduling situations resulted in a mean level of 2.3, 3.8, and 4.5 as rated by the supervisors, and 2.2, 3.5, and 4.5 as rated by the subordinates. These findings provide a successful validity check for the instrument.

4.2 Supervisor-Subordinate Agreement

As seen in Table 3, t-tests of the paired differences – supervisor minus subordinate for each dyad – aggregated across all dyads yield significant differences (at the .05 level) in 9 of the 26 situations. However, the overall difference is illustrated with a simple sign test – 23 of the 24 non-zero results are positive – leading to the conclusion that supervisors choose a punishment in a given situation that is more severe than their subordinates expect. This is significant beyond the .001 level.

4.3 Effects of Marketability

The tests of the marketability of the subordinate on the extent of the difference in the punishment did not yield any significant effect. Hence these results are not reported.

5. DISCUSSION

5.1 Consequences of Errors and Severity of Punishment

The results of this study provide general support for attribution theory. Subordinates expect less severe punishment for a given situation than their supervisors would mete out. This is particularly true in the area of personal relations, where attribution to the subordinate is most clear. Subordinates most disagree with their supervisors regarding punishment when their behavior is at issue.

5.2 Situation Realism and External Validity

The supervisor may be being place in an unrealistic situation because, in reality, the prior performance of the subordinate is known, hence the likelihood of making the errors described in the situations may be small. Further, job definitions and boundaries may preclude the possibility of many of these errors. Repeated measures design may sensitize respondents to consequences of errors.

6. SUMMARY

Attribution theory is applied in this study to discipline situations reflecting poor performance within a working supervisor subordinate relationship. Attribution theory is supported moreso than hedonic relevance and avoidance theories because subordinates expect less severe punishment than their supervisors would mete out. This difference is found especially in the area of personal conduct. There was no evidence supporting self-serving bias of the supervisor in discipline situations. Self-serving bias may only occur in positive situations.

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TABLE 3
RESPONSE SCORES BY FUNCTIONAL AREA AND SEVERITY

EXPECTED RESPONSE (SUPERVISOR'S LEAST(L) OR MOST (M) SEVERE		FUNCTIONAL AREA	QUESTION	SUPERVISOR'S RESPONSE		SUBORDINATE'S RESPONSE		PAIRED DIFFERENCE RESPONSE MINUS THE SUBORDINATE'S RESPONSE)			
BETWEEN CATEGORIES	WITHIN CATEGORIES			MEAN	VARIANCE	MEAN	VARIANCE	MEAN	VARIANCE	std. err.	t>1.96
L	L	PRODUCTION	1	2.298	.692	2.170	.710	.128	1.114	.154	
		SCHEDULING	19	3.809	.549	3.489	.821	.329	.961	.143	*
	M		8	4.468	.820	4.468	1.211	0.0	1.783	.195	
	L	SUPPLY	9	2.043	1.346	1.681	1.179	.362	2.323	.222	
		ORDERING	15	2.809	.941	2.660	.969	.149	1.521	.180	
	M		2	4.574	1.250	4.574	1.163	0.0	1.913	.202	
	L	PERSONAL	5	2.936	.887	2.739	1.422	.277	2.291	.221	
		RELATIONS	12	3.298	.909	2.872	1.244	.426	1.989	.206	*
			7	3.809	.332	3.404	.420	.404	.724	.124	*
			6	3.213	.519	2.787	.606	.426	1.076	.151	*
			20	4.000	.609	3.553	.818	.447	1.079	. 152	*
			23	3.894	.228	3.511	.560	.383	.720	.124	*
			21	4.106	.358	3.702	.431	.404	.594	.112	*
			16	4.372	.888	3.915	.601	.447	1.296	.166	*
	M		25	4.915	.993	4.617	1.720	.298	2.735	.241	
	L	CUSTOMER RELATIONS	3	3.340	.664	3.128	1.070	.213	1.780	.195	
			26	3.532	.472	3.489	.647	.043	.911	.139	
			14	4.085	.471	3.894	.662	.191	1.028 .	148	
			24	3.638	.497	3.596	.637	.043	1.085	.152	
			10	3.574	.380	3.532	.602	.043	1.042	.149	
			13	3.951	.651	3.489	.951	.362	1.279	.165	*
	M		18	4.894	1.054	4.532	.950	.362	1.714	.191	
M	L	MARKETING	22	4.553	.992	4.362	.932	.191	1.680	.189	
			11	5.021	1.065	4.787	.910	.234	1.705	.190	
			17	5.826	1.258	5.957	1.376	-.131	2.255	.219	
	M		4	6.644	.825	6.532	1.994	.112	2.982	.252	

THE TRANSNATIONAL ENTREPRENEUR: AN INITIAL OVERVIEW OF FACTORS AFFECTING INTERNATIONAL STRATEGIES

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ABSTRACT

A review of literature of an emerging field related to transnational entrepreneurship is presented. The research is based on three case studies and builds on the original Bartlett and Ghoshal framework. Methods to describe how transnational entrepreneurs select international strategies based on local conditions or low cost pressures are described. Results indicate that the same factors that affect the strategy choice of MNC's also affect the transnational entrepreneur strategy selection. Future research includes an analysis of barriers in choosing a strategy.

Keywords**:** *Transnational entrepreneur, transnational entrepreneurship, international strategies, and cross-cultural business practices*

1. INTRODUCTION

As globalization continues to expand, an emergent concept of transnational entrepreneurship continues to gain interest (Patel & Conklin, 2009; Drori, Hoing & Ginsberg, 2006; Portes, Guarnizo & Haller, 2002). Transnational entrepreneurship has a significant impact on economic, social and political structures (Patel & Conklin, 2009). A common perception is that an entrepreneur commercializes an opportunity within a single institutional. However, many global factors, free trade, and diverse lifestyles are enhancing the entrepreneurs' abilities to conduct businesses in other countries. The transnational entrepreneurs (TEs) have the ability to generate a greater and more efficient business than their others operating in one country.

Recent research explores TE from several perspectives focusing on: (1) the description of the degree of assimilation (Portes, Guarnizo, & Landolt, 1999); (2) processes (Evans, 2000; Guarnizo, Sanchez & Roach, 1999); (3) transnational communities and structures (Basch, Schiller, & Blanc, 1994); (4) internationalization strategies; and (5) firm type and owner characteristics. These sources provide some data into the transnational entrepreneur personal characteristics, but the following questions remain unanswered. Is there a typical profile for a transnational entrepreneur? Are there differences in strategy selection after being acculturated in the foreign country? How do the personal resources, networks, and other factors affect strategy selection?

This study explores transnational entrepreneur literature and builds on Ghoshal's (1987) global strategy framework. The model includes strategic objectives, such as efficiency in current operations, risks and innovation adaptation. Also, methods that transnational entrepreneurs pursue international markets to be successful and meet the requirements of multiple institutional environments within a subjective field of economic activity are examined. This study attempts to answer the following research question: What are the factors affecting the TE international strategy selection? How are these strategies based on personal experiences, resources, and networks make them successful across multiple institutional environments?

This paper contributes to the literature in various important ways: (1) It describes of how three successful entrepreneurs utilized their resources to create a competitive advantage is provided, and (2) It provides an application and expansion of the Ghoshal's theory of global strategy framework to the study of TEs in that a case analysis approach illustrates transnational entrepreneurs' unique positioning and the means by which they structure their environment. Therefore, the study could provide a valuable extension of the original Bartlett and Ghoshal framework that has been used only for organizations and not in an individual case. Finally, similarities and differences among transnational entrepreneurs are highlighted in providing a broader understanding of transnational entrepreneurship by describing three cases of successful transnational entrepreneurs.

The cases illustrate methods in which transnational entrepreneurs are uniquely positioned to serve as direct buyers/sellers and intermediaries who are brokers in knowledge economies. The reminder of the article reviews and classifies previous studies related to transnational entrepreneurs, methodology, and data analysis followed by a final section that discusses findings and provides recommendations for future research.

2. LITERATURE SURVEY

2.1 International Entrepreneurship and Transnational Entrepreneurship

Critical differences exist between transnational and international entrepreneurship. International entrepreneurship is defined as "a combination of innovative, proactive, and risk-seeking behavior that crosses national borders and is intended to create value in organizations" (McDougall & Oviatt, 2000). International entrepreneurship research has a limited view regarding ethnicity of the individual entrepreneur (Yeung, 2002; Drori et al., 2006).

On the other hand, transnational enterprise is: "A business in the ethnic economy which entails separate operational components of the enterprise being located in different countries and the transmigration of the owners in order to operate it" (Wu & Ng, 2002). As opposed to international entrepreneurship, transnational entrepreneurship is culturally oriented and derived and is part of the specific community and relationships within which the immigrant is embedded. In general, transnational entrepreneurship represents a form of economic transnationalism that immigrants engage in for different reasons.

2.2 Transnationalism

Most of the research related to transnationalism is viewed as relatively new (Portes, Guarnizo, & Landolt, 1999). Research has focused on methods in which immigrants build and conduct businesses in the home country and their host country, as well as their contributions to the development of the home country (Sequeira, Carr & Rasheed, 2009; Faist, 2000; Portes, 1996; Portes & Guarnizo, 1991).

Although some researchers state that transnationalism is not new and that immigrants engaged in similar activities in the past (Waldinger, 1998, 2008; Waldinger & Fitzgerald, 2004), Researchers in favor of transnationalism perceive that unlike earlier immigrant activities, today's activities are different due to improvements in transportation and technologies. Therefore, those activities play a more efficient role in their host country and the immigrants' home countries. (Sequeira, Carr & Rasheed, 2009; Portes et al., 1999; Robinson, 2005).

Generally, individuals engaged in economic transnationalism use their home and host country to build businesses, find suppliers, capital and to expand into new markets (Portes et al, 1999). These individuals have many skills and technical expertise, as opposed to the general assumption that they are less educated. Research indicates that individuals in many immigrant communities will take the opportunity to establish an economic connection between their host and home country in order to meet the community's need for particular cultural items from the home country (Sequeira, Carr & Rasheed, 2009).

2.3 Type of Transnational Businesses

Literature related to immigrant firms has assumed that most firms are small and concentrated in the retail sector (Dana & Morris, 2007). However, recent research indicates differences in types of businesses created by immigrants based on their attitudes towards the perceptions of the host country and the degree of acculturation towards that country. Landolt, Autler, and Baires (1999) described a typology for transnational firms as circuit, cultural, ethnic, and return migrant or elite expansion enterprises. This typology was based on a study of transnational business ventures found within El Salvadoran immigrant communities of Los Angeles and Washington, D.C. as shown in Table 1.

> *Circuit* enterprises are the business ventures where resources, both tangible and intangible, flow across borders.

Cultural enterprises help to promote the immigrant's national identity with the home country.

Ethnic enterprises are small ventures located in immigrant neighborhoods that employ individuals of the same ethnic background as the owner and cater to an ethnic clientele.

Return migrant enterprises are ventures started by those who have lived abroad and returned to their home country. Elite expansion enterprises are established in the home country businesses that market to immigrants abroad. (Sequeira, Carr & Rasheed, 2009).

2.4 Individual and Network Characteristics (Bordieu's Theory)

In most cases, TEs must balance efforts to create unique situations using personal networks to mobilize cultural, social, and economic capital. According to social network theory, social interactions among members result in flows of resources among members and companies. Those networks are basically a set of connections with friends, family, investors, and other acquaintances to assist the TE in gaining resources and to obtain opportunities by combining those connections (Patel, P. Conklin, B. 2009; Burt, 1992).

Recently, a theoretical framework of the transnational concept using Bordieu's theory and practice was presented. According to this theory, a successful transnational entrepreneur requires mobilization of social networks and a balancing of dual embeddedness in two different institutional settings (Patel, P. & Conklin, B., 2009; Driori et al., 2006). Therefore, in order to fully understand the TEs network, it is important to explain three concepts: *Social networks*, *bifocality* and *social capital*.

Bordieu defines capital as "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (Bordieu, 2001, p.187). Bordieu emphasized the importance of *social networks* in mobilizing economic, social and cultural capital as a means of acquiring and mobilizing resources from the habitus. Further, "The volume of social capital possessed by a given agent…depends on the size of the network of connections he can effectively mobilize and on the volume of the capital (economic, cultural or symbolic) possessed in his own right by each of those who he is connected (Bordieu, 1977, p.264). Social networks are critical for mobilizing social, economic and cultural resources.

2.5 International Strategies: Global vs. Regional

A fundamental question a transnational entrepreneur must understand before pursuing any international business is whether to pursue either a global or regional (local) strategy (Luthans & Doh, 2009). To an extent, customers have similar tastes an acceptance of standardized products and services give the transnational entrepreneur an option to utilize a *global integration strategy*, which is the production and distribution of products and services of a homogeneous type and quality in a worldwide basis (Bartllett & Ghoshal, 2002). On the other hand, the transnational entrepreneur might have to understand the different customer tastes in segmented regional markets and adapt and respond to different national standards and use a *multi-domestic strategy*. Depending on the complexity of the business transaction, two additional strategies are available to the transnational entrepreneur according to Bartlett et al. which are:

International strategy exists where there is little pressure to adapt or a small need to control cost and the *transnational strategy*, where companies try to simultaneously achieve low cost and market adaptation. Harzing (2000) extended the Bartlett and Ghoshal typology focusing on organizational design, local responsiveness and interdependence. These studies are applied to multinational companies (MNCs) but not to the individual transnational entrepreneur.

Table 1
Typology of Transnational Enterprises *

Type of Enterprise	Start- up Capital	Labor	Maintenance and Expansion inputs	Consumption
Circuit (host and home country) (e.g., firms engaged in courier services; technology-related manufacturing; immigration-related services)	Transnational	Transnational	Transnational	Host and home country
Cultural (host country) (e.g., firms engaged in newspaper production, television/radio programming; organizing home country artist performances)	Host country	Host country	Transnational maintenance and host country expansion inputs	Host country
Ethnic (host country) (e.g., firms engaged in small retail outlets; convenience stores; small restaurants; small service-oriented businesses)	Host country	Host country	Host country maintenance and transnational expansion inputs	Host country
Return migrant (e.g., firms engaged in host country themed restaurants—pizza, chicken; automobile sales)	Transnational	Home country	Transnational	Home country
Elite expansion (e.g., firms engaged in home country-based beverage production for distribution in host country; fast food firm headquartered in home country with branches in host country)	Transnational	Transnational	Transnational	Host country

** Adapted from Landolt et al.*

3. METHODS OF RESEARCH

The case method appears to be the most appropriate tool for examining the early phase of new management theory (Terjesen, S, Elam, A. (2009); Eisenhardt, 1989; Yin, 1994). This study adopted a qualitative approach, presenting a study that analyzed the narratives produced by three case studies with particular attention to the individual, institutional, and other factors.

This work uses the narrative interview to describe the subjective positions where the transnational entrepreneurs pursued key strategies and moved from different settings and institutional environments. This framework is a vehicle to develop a theoretical model of a modern transnational entrepreneur. By using both methods, the problems in assessing them independently should be eliminated. Langley (1999) found this method should generate an “idiosyncratic story of marginal interest” or develop a dense theory that is difficult to move to “substantive theory.”

In general, narratives are often used in new research trends to explain and understand how individuals perceive their surrounding environments (Boje, 1991; Drori, Wrzesniewski, & Landau, 2007). Narratives describe the contexts through which individuals define aspects of their identity, explain their occupations and are especially useful in the analysis of new situations (Bruner, 1986) and enable individuals to connect past and present work experiences (Bartel & Garud, 2009). The narrative technique is a *post hoc* method (Weick, 1996) and has been successfully used in a variety of fields, including entrepreneurship. This technique provides grounded theory with views of the links between entrepreneurs and their venture strategies, including environmental factors (Maguire, et al., 2004; Martens, et al., 2007).

The storytelling aspect of the narrative technique provides the entrepreneur with rationales related to the strategy selection, subjective positions of the entrepreneur with stakeholders and external environment (Martens et al, 2007). This technique helps to clarify details regarding the strategy selection and the resources utilized by the entrepreneur. Both qualitative methods as described by Glaser and Strauss (1967) and an improved version of Strauss and Corbin (1990) are utilized. A literature review related to the phenomenon of transnational entrepreneurship was conduced. These areas included the most recent research related to international business, international strategy, and entrepreneurship. Once this step was completed, a set of themes were developed including topics relevant to transnational entrepreneurs. After completing this second phase, the study by Bartllett & Ghoshal (2002) was used as a theoretical framework in order to explore these individual strategies describing their external contexts, networks, and strategy selection.

3.1. Case Design

Three cases were identified as having extensive relationships with individuals through consulting and community activities. In reviewing potential candidates, special interests were given to those who meet the criteria closer to the definition of transnational entrepreneur provided by Driori et al (2006). Authors conducted a 30-60 min in-depth interview with a variety of potential candidates, and three were selected carefully using the study objectives. The interviewed started with open-ended questions to facilitate the sharing of experiences. The following questions were used to guide the interviews: (1) What is your business? (2) How long have you been in business? (3) Do you follow a business model? (4) Please describe how you started. (5) Have you operated several businesses (serial entrepreneur)? (6) What are your major barriers? (7) How did you overcome those? (8) What do you think are the reasons for your success? (9) Did you receive any help? SBA? SBDC? other? (10) Please describe your international operations. (11) What pressures do you face in your international business? Cost? Adaptation? (12) What would be the main economic elements that helped your international business? Finally, the interviewee was asked to share any thoughts or information that seemed relevant for the interview.

The selected case narratives were reviewed, and each one made additional comments or point observations. One of the main goals of the interview was to understand the transnational entrepreneur's perceptions of the individual experiences and institutional environments and describe how this helps to shape the strategy selection. A *proiri* representation of their reality existed in that the entrepreneurs explained many aspects they perceived to be relevant to their business success. Patterns and sub-categories were identified in order to understand their strategy selection. The selected interviewees were re-interviewed to obtain more data on experiences related to the case study. This second stage of interviews follows Seidman's 1998 methodology to help in understanding individual characteristics and perceptions of the transnational entrepreneur context. One narrative used fictitious names to protect identities. The individual-level data seemed consistent with the Ghoshal (2002) global strategy framework. The three case studies are briefly profiled in the next section.

4. Case Narratives

4.1 Case 1--Francisco Lopez

Originally from Mexico, Francisco received an engineering degree in computer engineering with a minor in computer science and communication from Universidad Autonoma de Nuevo Leon, Mexico. With help from his family and a partnership with a Chinese-American (Mr. Wu), Lopez started a computer wholesale company in Laredo, Texas. He recalled how he obtained funds to start his venture:

> *At first it was difficult to obtain funding, but my parents who lived in Nuevo Laredo at the time got a loan against their home and that was the funds we started with. I didn't have any business or school background in the U.S., I received an engineering degree in computer engineering with a minor in computers and communications from Universidad*

Autonoma de Nuevo Leon, Mexico, and it was very difficult for me to obtain financial help to start a U.S. organization.

To overcome this barrier, he found a partner to help him to get started in the U.S.:

During a class project, I met my partner, who was an adjunct professor at Laredo State University where he taught computer programming, statistics, and information systems. He had the right background and financial history in the U.S., and we started our first company "Dinastia."

His experience and cultural knowledge of Mexico helped the company to expand business. He also explained how his partner, a Chinese American, also uses his personal contacts and country knowledge to help grow the business:

Mexmal has its headquarters in Monterrey, Mexico and Laredo, Texas, which helped us target both markets. I have extensive understanding of the Mexican and Latin American markets, and my partner Mr. Wu, had access to a low cost manufacturing in China. This helped us adapt the products to our Mexican market. We have a variety of strategic alliances with various organizations in Mexico, we provide low cost computer parts, and have a distribution network we can work with. This is a win-win strategy for both. Mexmal is in the process of purchasing the manufacturing plant in China, so we can obtain greater discounts. We plan to pass those to our consumers in Mexico and in other countries in Latin America.

Finally, Francisco Lopez explained how they adapted their products to their Latin American and U.S. markets:

Mexmal has to consider technical advances in the country; for example, in the U.S. more advanced technologies are in use. In Mexico, if you are selling computer parts in big cities, they are moving faster to adapt newer technologies. But if you go to smaller towns, they might still use older versions of the technology, so we have to adapt. We believe the same situation will apply to other countries in Latin America. This is called "digital divide," so we have to adapt to local IT infrastructure. Cost and personalized service are the key elements in our success. Every company has different IT structures. We have to adapt to everyone in order to get business.

4.2 Case 2:--Texas Ragtime

Texas Ragtime (TR) is a company with U.S. and Latin American operations which gathers and processes clothing to be recycled. TR was formed in 1992 by a serial entrepreneur who has built the organization to become an international provider of recycled clothing to home and selected host countries. He has extensive corporate experience and has served as CEO of a large restaurant chain. He has served in the Office of the Chancellor for the University of Texas (UT) System and as a professor from UT San Antonio and Boston University's European campus.

The TR business model calls for gathering, grading, processing, selling and distributing large quantities of recycled clothing. The U.S. plant has a capacity for processing 150,000 pounds of goods per day. Clothing is primarily purchased from private and not-for-profit entities such as Goodwill and Salvation Army. Bill Hunt designed the processing equipment in the plant. Clothing is most often compressed into 1,000 pound bales for shipping to the U.S. and international outlets. In parallel with the basic business model, Hunt developed another business which purchases salable fabrics and manufactured goods to sell as absorbent materials for restaurant and international suppliers of paint. In addition, he has an importing business that sells "Irish lace" and has recently opened a "cryogenics" facility. Hunt is constantly looking and strategizing about both places to expand into and products that will be suitable for those markets.

In 2000, he opened businesses in two other countries, and took advantage of a "trade-free" zone in Costa Rica. , which is the basic business model as in the U.S. Periodically a shipping container is loaded with approximately 40 bales of compressed clothing and shipped to Costa Rica. The TR manager in Costa Rica receives the shipment and then oversees the process of identifying customers in the country where the bales are sold. Next, he then takes the bales, opens them, sorts the clothing, launders, and improves the product for presentation in retail outlets. A similar operation was opened in the Dominican Republic in 2004.

The major barriers to success as a TE are not as much financial as human capital and understanding the expectations of doing business in a host country.

> *Whether we are just exporting products or establishing our own company in another host country it is critical to fully and quickly understand the expectation for a company owned by individuals from another country. If this is not done, the chances of being successful for any length of time are very low. The other key to TE success is having the right individuals in place to make the business model successful. The owner-manager cannot be in multiple places at one time. Finding team members who can do business in the host countries while making the designed business model wok is essential.*

The entrepreneurial start up in Costa Rica has succeeded while the business in the Dominican Republic has not. His reason for one success and one failure focused upon the person selected to manage the business.

> *In the case of Costa Rica, I hired an American born person with Latin American heritage. He was trained in the U.S. and then moved to Costa Rica. There he has fully integrated in to the Costa Rican culture including his marriage to a Costa Rican woman with whom he now has two children. He understands and implements our business model while being fully accepted as Costa Rican. In the Dominican Republic, I was not as lucky to find the right person. After several attempts to recruit, retain, and develop a Dominican manger, I could not generate the needed level of profit to keep the business open. The key to success in taking our model to these countries is having the right people in place.*

When asked about the business strategy chosen to enter both countries, the answer was essentially the same.

> *We have to watch our costs very closely. We compete heavily here in the U.S to gather recyclable clothing which meets our quality standards at the lowest cost. We run our operations here in the U.S. to optimize profit. We look for the best and lowest cost method of shipping product to Costa Rica. It is critical that we anticipate all costs of transportation in Costa Rica. This includes not only ground and sea costs but cost of clearing customs and paying required taxes upon arrival of the goods into the country. Basically, we are providing "standard products" in the form of recycled clothing to another country with strong emphasis on controlling costs.*

This case study reveals that his company, Texas Ragtime, utilizes a "global strategy" in its successful entry and operation in Costa Rica.

4.3 Case 3--Rugs and More to Elegant Designs

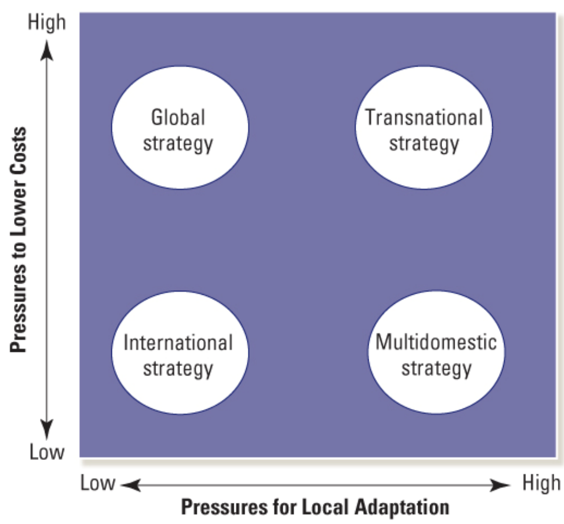
The entrepreneur came to the U. S. 35 years ago from Turkey. At that time, he started taking classes at a local university and earned a degree in business. After graduation, he opened a restaurant for several years but without the success he desired. He began importing from other countries; i.e., Turkey, Iran, China and others on a trial basis. The most successful product was oriental rugs. His success was due to a network of middlemen who took care of the paperwork and transportation. He found the best mode of transportation was via ship to the Port of Houston. Then trucks could send the product to the retail outlet. He feels having this network was a major factor in his being able to buy and sell rugs, garden supplies, artwork, and miscellaneous household furniture. The three stores are rugs, small restaurant, and household merchandise.

Thee entrepreneur is located in a medium-sized city and imports rugs from Turkey which come by ship to Houston and then by truck. His tried to find a manufacturer in the U.S., but decided on Turkey due to the cost structure. His strategy is low cost, high volume, and good customer service. The major barrier was finding the right network. He stated that it was mainly by trial and error. He is located in three stores in a major shopping center. His prices are lower than competitors. He continually checks prices of his products with other retailers. He is in the process of changing the name to reflect a wide variety of products rather than just rugs. Cost and personalized service were the key elements in his success.

5. FRAMEWORK APLICATION TO INDIVIDUAL TRANSNATIONAL ENTREPRENEURS

In order to guide a discussion and interpretation of the cases, Bartllett & Ghoshal (2002) global strategy is utilized as a theoretical framework illustrating how transnational entrepreneurs also utilize global international strategies (2002). In addition to the Dori et al. (2006) model of theory and practice on firm's outcomes, transnational entrepreneurs also must decide upon a global or multi-domestic strategy while creating the venture. Two opposing forces transnational entrepreneurs also face when they consider doing business in global markets are: adapting to local markets or using a cost advantage to obtain market share (Dess at al. 2010). Four International strategies are used by MNC's according to Bartlett and Ghoshal and shown in Figure 1.

Figure 1
Strategies according to Pressures to Lower Costs and Local Adaptation



Source: Adapted from Dess, Limpkin & Eisner: Strategic Management, 5th ed.

5.1 International Strategy

Few industries have low pressure on local adaptation and cost. For instance, the drug industry is an example of this type of strategy (Huber, 2009) where there is no need to adapt to local markets and the pressure for cost is low. Dess et al (2010) defined international strategy as: "A strategy based on firm's diffusion and adaptation of the parent company's knowledge and expertise in foreign markets and used in industries where the pressures for both local adaptation and lowering costs are low."

> ***Proposition 1***: Transnational entrepreneurs leverage social and professional networks in the development and pursuit of an international strategy.

5.2 Global Strategy

A firm whose emphasis is on lowering costs tends to follow a global strategy. Firms usually offer standardized products and services, as well as locating manufacturing, R & D, and marketing activities in only a few locations. A global strategy emphasizes economies of scale due to standardization of products and services and the centralization of operations in few locations. Dess et al (2010) defined global strategy as: "A strategy based on firm's centralization and control by the corporate office with the primary emphasis on controlling costs used in industries where the pressure for local adaptation is low and the pressure for lowering cost is high. Texas Ragtime supports his choice for a "global strategy" as:

> *We have to watch our costs very closely. We compete heavily here in the U.S to gather recyclable clothing which meets our quality standards at the lowest cost. We run our operations here in the U.S. to optimize profit. We look for the best and lowest cost method of shipping product to Costa Rica. It is critical that we anticipate all costs of transportation in Costa Rica. This includes not only ground and sea costs but cost of clearing customs and paying required taxes upon arrival of the goods into the country. Basically, we are providing "standard products" in the form of recycled clothing to another country with strong emphasis on controlling costs."*

> ***Proposition 2*:** Transnational entrepreneurs utilize capital resources in strategic ways in order to design business models to pursue a global strategy.

5.3 Multi-domestic Strategy

A firm whose emphasis is on differentiating its product and service offerings to adapt to local markets follows a multi-domestic strategy. Decisions from a multi-domestic strategy tend to be decentralized and permit the firm to tailor its products and respond quickly to demand changes. Dess et al (2010) defined multi-domestic strategy as: "A strategy based on firm's differentiating their products and services to adapt to local markets, used in industries where the pressures for local adaptation is high and the pressure for lowering costs is low."

> ***Proposition 3*:** Transnational entrepreneurs have significant cultural advantages to understand cultural settings from their background, understanding of legal and regulatory regimes, education, personal networks and experiences place them in a good position to pursue a multi-domestic strategy.

5.4 Transnational Strategy

A transnational strategy strives to optimize efficiency, local adaptation, and learning. Firms that use a transnational strategy have their core competencies and capabilities dispersed according to the most beneficial location for each activity. Dess et al (2010) defined transnational strategy as: "A strategy based on firm's optimizing tradeoffs associated with efficiency, local adaptation, and learning, used in industries where the pressures for both local adaptation and lowering costs are high. These strategies are summarized in Table 2.

Francisco Lopez explained methods of adapting their products to the Latin American and U.S. markets. He also pursues a low cost strategy:

> *Mexmal has to consider technical advances in the country; for example, in the U.S. more advanced technologies are in use. In Mexico, if one is selling computer parts in big cities, they are moving faster to adapt newer technologies. But if you go to smaller towns, they might still use older versions of the technology, so we have to adapt. We believe the same situation will apply to other countries in Latin America. This is called "digital divide", so we have to adapt to local IT infrastructure. Cost and personalized service are the key elements in our success. Every company has different IT structures. We have to adapt to everyone in order to get business.*

Proposition 4: Transnational entrepreneurs have significant cultural advantages to understand cultural settings from their background, understanding of legal and regulatory regimes, education, personal networks and experiences and utilize capital resources in strategic ways in order to design business models to pursue put them in a good position to pursue a transnational strategy.

Table 2
Case Studies according to Entrepreneur Type

TE	Multi- domestic	Global	Transnational
Mexal			X
Texas Ragtime			X
Rugs and More			X

6. CONCLUSION AND FUTURE RESEARCH

This study focused on three successful transnational entrepreneurs. This study showed that transnational entrepreneurs utilized the same strategies that MNCs when dealing with international markets. The transnational entrepreneur benefits greatly from certain sets of capital, cultural and information that allows them to obtain competitive advantage in the marketplace. Transnational entrepreneurs are uniquely positioned to use knowledge to establish innovative enterprises. The cases provide substantial evidence that transnational entrepreneurs act as generators of new businesses that guide them to new markets. Also provided was an example of a serial entrepreneur who acts as a transnational entrepreneur and utilizes the same strategy. A set of testable propositions were made that could be empirically approved or disapproved.

Future research should focus on those propositions and to explore the highly diversified transnational entrepreneur activity. Additional research should explore barriers to achieve success.

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KNOWLEDGE MANAGEMENT IN THE CONSTRUCTION INDUSTRY IN UGANDA

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ABSTRACT

The purpose of this paper is to examine the importance of knowledge management in Ugandan construction firms and emphasize the significant contribution explicit and tacit knowledge towards the improvement of firm performance. The study was conducted in a population 112 firms consisting of 34 large firms and 78 small firms in the construction industry. A questionnaire was focused on the nature of the firm, annual turnover and its distribution among firms, position hierarchy, employee's characteristics, firm performance, documentation, communication skills and knowledge management of the firms to highlight the people factor. Challenges faced by firms to improve performance were also investigated.
The small firms annual turn-over ranged between 0-$50,000and $5m-$7.5m- whereas for big firms it ranged between $7.5m and $10M Project managers (25.9%) dominated the position hierarchy in firms. The employees of the firms were of varying education level including University graduates, tertiary and others Masters and PhDs. Employees were the main source of knowledge followed by operating manuals.

*The results indicated that there is a very high relationship between leadership and firm performance (P=0.000). The results also suggested that there is strong relationship between knowledge management and firm performance (r=.825**,P<.05) Knowledge sharing among the employees had a significant (P=0.0000) effect on firm performance. The results further suggested that there is strong relationship between knowledge management and organizational performance (r = .825**, p<.05). Innovation was also found to be positively related to knowledge management. Both knowledge management and innovation can explain up to 75.2% of organizational performance. The study indicated that encouraging apprentice training as the major approach to knowledge management. Documentation of employees' experiences in data repositories was reported as an important aspect of knowledge management. The major challenges suggested in the construction industry was lack of time to properly assimilate knowledge and new ideas being very expensive to implement in Uganda. Soft copies of documents, reports and newsletters were the major forms of documentation and dissemination of knowledge. However, 100% percentage of the respondents does not have enough knowledge about knowledge management systems.*
Concerning the practice and policy implications, the construction industry should embrace knowledge management and develop appropriate strategies for capturing, sharing, and disseminating the knowledge obtained on the different projects in order to gain a competitive edge and improve on their performance. Concerning research implications, action research methods may be necessary to offer researchers opportunity to work in tandem with practitioners and professionals in implementing knowledge management strategies and systems, while investigating further into which strategies and systems work in such skilled sectors or working environments and why they work.

Keywords: *Knowledge management, Performance, Construction industry*

1. INTRODUCTION

Construction is a $1.7 trillion industry worldwide, amounting to between 5 and 7 percent of GDP in most countries. The sector's role in economic development is housing, roads, utility networks; school, clinics etc. In Uganda the construction industry constitutes over 12% of the gross domestic product and has witnessed a steady growth for the last 20 years (UBOS, 2005). Construction is a project-based sector within which individual projects are usually customer built to client specifications. Construction involves large, complex, non-standard activities in which quality can be very hard to assess. Projects can involve a multitude of players –the client, consultant engineers and architects, financiers, insurers, a main contractor and scores of subcontractors.

The construction industry is considerably more fragmented than other industries with a much greater concentration of small professional organizations. The services offered by these organizations are characterized by being highly tacit knowledge intensive in nature (Løwendahl, 2000), with a wide range of professionals involved, working as an inter-disciplinary team in delivering the construction products. The construction industry is considered to be a labor intensive sector of the economy compared to other industries (Green et al., 2004) and a good number of the construction workers in Uganda are employed by small building firms on a casual basis. Engineers, architects and other professionals within the construction industry are not in a position to ‘‘cut and paste’’ the best practice (Kamara et al., 2003) from the past due to the unique and the complex nature of construction projects. These professionals have to draw back on the past to find solutions for the new projects. Tacit knowledge evolves from these shared practices and experience which need to be managed for the project and the organizational success. This paper attempts to explore ways of managing knowledge created and shared within the construction industry for project and organizational success. The hypothesis of the investigation is proposed as follows:-
“If Knowledge management is practiced in the construction industry in Uganda it can lead to better organizational performance”.

Attempts to improve contractors’ performance in developing countries have failed to yield significant results (Cattell, 2004) yet building construction consumes about 70% of the construction investment (Patterson et al. 2004). The Uganda construction sector is affected by a number of factors which include productivity, innovation, slipping schedules, rework, mistakes, disputes, and increased construction costs (Alinaitwe et al., 2007). Lack of skills is a major problem and seriously affects the time to accomplish tasks, the cost of skilled labor and the quality of products achieved. It is assumed that any effort directed to improving the construction industry performance will greatly enhance the country's chances to realize its development goals, hence the need for this research. The objectives were determined as follows;-

- To find the relationship between KM and organizational performance in the Ugandan construction industry
- To investigate the approaches for KM application and the challenges of KM in the Uganda construction industry

The paper is outlined as follows. Section one presents the introduction. Section two presents a review of knowledge management literature and develops a framework for the research. Section s three, four and five present the research methods, findings and analysis. The last section focuses on the conclusion and future research directions.

2. LITERATURE REVIEW

2.0 Knowledge Management in the Construction Industry

Understanding KM Knowledge is becoming a valuable organizational resource within the business community. There is an increased concern in organizations’ efforts to consciously manage knowledge in a systematic manner. Many knowledge management definitions exist but for the case of this research, only selected definitions will be focused on. Darroch and McNaughton (2002) indicate that knowledge management is a management function that creates or locates knowledge, manages the flow of knowledge and ensures that knowledge is used effectively and efficiently for the long-term benefit of the organization. Du Plessis (2003) defines KM, as a planned, structured approach to manage the creation, sharing, harvesting and leveraging of knowledge as an organizational asset, to enhance a company’s ability, speed and effectiveness in delivering services for the benefit of clients, in line with its business strategy. Gloet and Terziovski (2004) describe KM as the formalization of and access to experience, knowledge, and expertise that create new capabilities, enable superior performance, encourage innovation, and enhance customer value.

Although these definitions vary in their description of KM, there seems to be a consensus of treating KM as a process of leveraging of knowledge as the means of achieving innovation in process and products/services, effective decision-making, and organizational adaptation to the market. Work by Polanyi (1958), and Nonaka et al. (2000), divided knowledge into tacit and explicit although it could be classified into personal, shared and public, practical and theoretical, hard and soft, internal and external etc, the classification of tacit and explicit knowledge remains the most common and practical (Chaminda et al., 2007). Tacit knowledge represents knowledge based on the experience of individuals, expressed in human actions in the form of evaluation, attitudes, points of view, commitments and motivation (Nonaka and Takeuchi, 1995). Since tacit knowledge is linked to the individual, it is very difficult, or even impossible, to articulate. Explicit knowledge, in contrast can be coded, inherent in non-human storehouses including organizational manuals, documents and databases. It is difficult to find two entirely separated dichotomies of tacit and explicit knowledge; instead knowledge can fall within the spectrum of tacit knowledge to explicit knowledge. Explicit knowledge which can be captured and shared by information and technology systems in the firm and it plays a prominent role in a firm's strategy formulation process.

2.1 KM and Organizational Performance

Much of the literature describes KM from an information technology (IT) perspective; a perspective possibly over-emphasized by some scholars and practitioners (Yang, 2008). Rowley (2000) comprehensively defines KM as identifying, sharing, creating and storing of knowledge. KM is concerned with the exploitation and development of the knowledge assets of an organization with a view to furthering the organization's objectives. The knowledge to be managed includes both explicit, (documented knowledge), and tacit (subjective knowledge). From a business strategic perspective, knowledge management is about obsolescing what you know before others do, and profiting by creating the challenges and opportunities others haven't even thought about. In the bigger picture, the focus of knowledge management is on the ever-changing environment in which societies, organizations and individuals live, work, learn, adapt and survive (Malhotra, 2003).

The purposes of knowledge management vary from organization to organization. For instance, knowledge management is the way to improve an organization's performance, productivity and competitiveness, and to promote acquisition, sharing and usage of knowledge. According to Plessis (2005), there are many knowledge management purposes for example; to initiate action based on knowledge; to support business strategy implementation; to become an intelligent enterprise; to increase competitive advantage; to create an innovative culture and environment; to entrench collaboration as a work practice; and to improve work efficiency.

There is generally no accepted measure of organizational performance in the literature, but since accounting based or financial results are the final objectives of many partnering firms, many firms base their measures on financial results. Prior empirical studies show that performance is a multidimensional construct that should be measured with multiple items. According to Das and Teng (2003) research, a firm's performance is operationalized in terms of improvements in sales, profitability, return on assets and return on investment. However for this study the measure for firm performance will be based on growth, number of clients and financial performance.

The importance of KM for performance improvement has long been recognized in research. There is also extensive empirical evidence for the direct impact of KM on financial as well as non-financial performance, both in the marketing field (Panayides, 2007) and in strategic management literature. However, these studies have mainly been conducted in developed countries and empirical evidence is still lacking in the low developed countries. More specifically, the emerging knowledge-based theory of the firm poses that valuable, rare and not easily imitable knowledge is a fundamental source of sustainable competitive advantage.

2.1.1 Knowledge Management and Innovation

Construction is considered a backward industry that fails to innovate in comparison with other sectors (Winch, 2003). Being innovative brings new knowledge in the industry regarding new products, new processes and organizational change. KM is not solely focused on innovation, but it creates an environment conducive for innovation to take place. Innovation is a process that recombines existing knowledge in new ways. KM can play a significant role in making explicit knowledge available for recombination into new and innovative ideas. KM provides the tools, processes and platforms to ensure knowledge availability and accessibility, e.g. through structuring of the knowledge base. KM can also ensure that explicit knowledge, which can be used as input to the innovation process, is gathered internally and externally. KM finally also provides the means of ensuring the leverage of knowledge and to determine the gaps in the explicit knowledge base of an organization that could potentially negatively impact the organization’s innovation program.

Parlby and Taylor’s (2000) opinion is that KM is about supporting innovation, the generation of new ideas and the exploitation of the organization’s thinking power. KM includes capturing insight and experience to make them available and useable when, where and by whom it is required. Knowledge management allows easy access to expertise and know-how, whether it is formally recorded or in someone’s mind. It betters quality decision-making and ensures that the value and contribution of intellectual assets, as well as their effectiveness and their exploitation, is well understood. Cavusgil et al. (2003) indicated that building and sustaining an innovation program has become complex due to changing customer needs, extensive competitive pressure and rapid technological change.

Knowledge is considered one of the most important resources which are unique, inimitable and valuable for firms. Some companies are considered to be innovative due to their effective knowledge management systems. For example, Japan’s Hitachi effective knowledge creation and successful innovation are due to successful development of long term, high trust-supply relationship (Lincoln et al., 1998). A firm has to be innovative in order to survive in the volatile environment hence innovation is a base for firm survival (Cavusgil et al., 2003). Innovation has become increasingly complex, costly and risky due to changing customer’s preference, extensive competitive pressure and rapid technological changes (Cavusgil et al., 2003) yet it forms the lifeline of organizations.

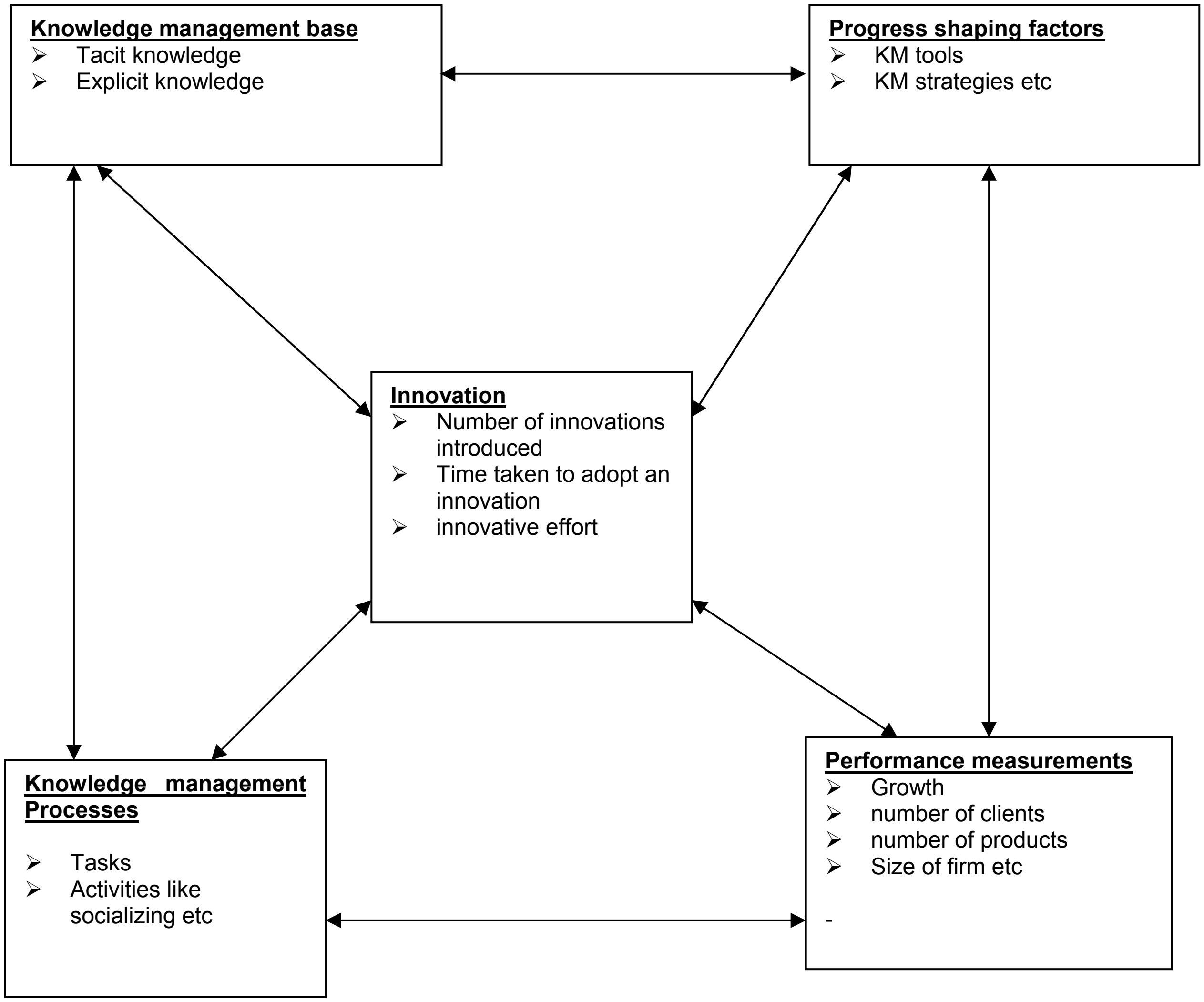
Egbu et al. (2003) research empirically established that problem solving, managing change and innovation are the main triggers of the knowledge production in construction industries. According to their survey the majority of respondents noted that they rely on their colleagues as a primary knowledge source. In addition, ‘‘the construction project team’’ has been cited as the second mostly used knowledge source. Yet another survey (Carrillo et al., 2002) of 170 UK construction organizations, indicated communities of practice as the most widely used technique for knowledge management, particularly in large construction firms. Firm’s performance is improved through an improvement of intermediate (or individual) outcomes, following the implementation of knowledge management (Sabherwal and Bercerra-Fernandez, 2003).The focus on firm’s performance to sustain competitive advantage is necessary for any firm; however, the measurement of firm’s performance may take different forms.

2.2 Conceptual Framework for Knowledge Management

2.2.1 Management of Knowledge

The conceptual framework below was developed after review of related literature on the study variables. Knowledge management (tacit and explicit knowledge) brings about better performance in terms of increased growth, size and number of customers. Innovation has an impact on firm’s performance (Zain and Rickards, 1996; Da Rocha et al., 1990). KM involves various tasks and activities that are performed to ensure that knowledge is generated and/captured, stored, disseminated or shared and maybe retired. KM can play a significant role in making explicit knowledge available for recombination into new and innovative ideas. KM provides the tools, processes and platforms to ensure knowledge availability and accessibility, e.g. through structuring of the knowledge base. Knowledge management can also ensure that explicit knowledge, which can be used as input to the innovation process, is gathered internally and externally. Knowledge management finally also provides the means of ensuring the leverage of knowledge and to determine the gaps in the explicit knowledge base of an organization that could potentially negatively impact the organization’s innovation program.

FIGURE 1 CONCEPTUAL FRAMEWORK FOR KNOWLEDGE MANAGEMENT



Adapted from Carrillo et .al. (2005)

Knowledge base includes data, information and knowledge, and should be managed since various forms of knowledge depending on relevance could be found here. KM process refer to activities that are implemented to manage knowledge and is tightly linked to the process shaping factor where the tools like Knowledge management strategy, balance scorecard would be found performance measurement involves the assessment of the Usefulness' of the knowledge management efforts or incentives Knowledge is an intangible asset, making the measuring of the effectiveness of knowledge management solutions or application a challenge, Ideally the knowledge that is created in a company should be reused in order to improve business process performance however in reality there exist a number of bottle necks or barriers that reduce or even stop this flow or transfer of knowledge, hence a need to access the real contribution of Knowledge management to business performance by creating a frame work that identifies these bottle necks and measure the knowledge management performance.

3. METHODOLOGY

This study was aimed at understanding how knowledge management affects organizational performance in the construction industry. Quantitative analysis is chosen when an individual wishes to test a hypothesis, and investigate the relationship between its component variables. If one wishes to examine the facts about a particular concept, and look at the relationship between these particular facts, then quantitative research will be appropriate (Naoum, 1999). Data was collected using cross sectional survey of the construction firms in Uganda. The survey was conducted by use of questionnaires (numbered), which was open ended and closed questions so as to improve on the depth and detail of the data collected. The study'ss' major concern was that of low response rate which was overcome by carrying out a semi structured interview.

The empirical study began with a preliminary interview with Project managers in order to better identify the questions to be asked and inform the questionnaire writing. The questionnaire was similarly pre-tested for clarity and pretested out with two other respondents in face-to-face sessions. Pre-testing helped identify the ambiguous parameters which were subsequently clearly defined in the body of the questionnaire to ensure all respondents have as much as possible the same understanding of the variables being measured. Initially, the pilot study revealed relatively high level of agreement with the hypothesis.

A combination of primary and secondary data sources were selected as the sources constructing the basis of this research. The primary data research was conducted by use of a survey-based questionnaire while secondary data was collected through published and unpublished materials like journals, books, monthly reports, ministerial reports, and other material related to the study. Varied information and data collection on the subject enhance the reliability and validity of the conclusions and the related interpretations. Secondary data on general performance of the construction industry was obtained from government bodies such as Ministry of works, Uganda (MOWT), UBOS, UNABCEC, and Ministry of Finance.

TABLE 1 CRITERIA FOR CONTRACTOR STRATUM

Stratum	Criteria to Stratify	
	Experience	Permanent staff
Class A	Annual construction turnover US$7.5m - 10 M	> 50
Class B	Annual construction turnover US$ 5M -7.5 M	30 – 50
Class C	Annual construction turnover US$ 2.5 M- 5M	< 30
Class D	Annual construction turnover US$0.5M – 2.5M	<20
Class E	Annual construction turnover US$ 50,000- 250,000	<15
Class F	Annual construction turnover US $ 0-50,000	<10

Source: MOWT & UNABCEC (2006)

The target population of contractors was, those registered with the contractors' association, UNABCEC, and engaged in formal construction work. At the national level, one recognized way of categorizing construction companies is by the UNABCEC and MOWT grade. The classification from A to E takes into account the financial strength, size and ability to carry out jobs. Those in class A are the biggest and undertake works of the biggest magnitude and include some multinational companies. At the time of the survey, UNABCEC had a membership of 170 including civil engineering contractors. For the purposes of this survey, the mailing lists of all those who were engaged in building and construction during the year 2005 were used. The chief executive officers were asked to respond or provide one person in top management to make a response.

Since most construction firms are based in the capital city of Uganda, Kampala, a sample representative of the construction firms in Kampala provide data reliable enough for generalization with respect to the whole construction industry in Uganda (see Table 1). The sample size was determined using Krejce and Morgan (1970) table for estimating sample size. The individual firms comprising the sample were selected using the random selection from each category.

A sample size of 112 was selected from a population of 170 construction firms using Krejce and Morgan (1970). The sample included 29 main contractor's project managers, 15 clients, 19 architects, 18 quantity surveyors, 13 consulting engineers and 18 subcontractors/suppliers from a sample of at least 17 different projects. Firms in the construction industry registered with the Ministry of works and Transport (MOWT) and UNABCEC, Uganda will be the only ones participating in the survey for this study. This is because construction firms have to meet the minimum professional standards to be registered with this body and thus targeting firms that do not meet the minimum professional standards would be erroneous, as such firm have far more limiting variables for performance and thus knowledge management may not be a factor of consideration to them due to the minimum staff and brief case office style.

3.1 Data Analysis

Both quantitative and qualitative analyses were used to eliminate the weakness of the other. According to Naoum (1998), quantitative research is selected when one needs to find facts about a concept, question or an attribute and study the relationship between these facts in order to test a particular theory or hypothesis. Qualitative research on the other hand is subjective in nature and it emphasizes meanings, experiences, descriptions and so on. The information gathered in qualitative can be changed to quantitative information. The data collected was categorized based on the specific objectives and was coded to enhance their organization and recording. The coded data was analyzed using Special Statistical computer soft ware known as Statistical Package for Social Science SPSS13.

4. FINDINGS

The study objectives were; to examine the relationship between knowledge management and organizational performance, knowledge management and innovation and the relationship between knowledge management, innovation and organizational performance. Construction firms all over the world are increasingly being challenged by high-cost pressure, shortened project cycles and increasing competition. Within a business environment, where fast and reliable access to knowledge is a key success factor, the efficient handling of organizational knowledge is crucial. Within most developing countries, the domestic construction industry is made up of a few larger firms, often state-owned, and a large number of small firms. About half of all construction enterprises employ fewer than fifty workers; with a considerable percentage of the labor force informal (Copplestone, 2006).

4.1 Respondent Characteristics

In total, 112 respondents from various construction firms participated in this study. The survey covered both large and small firms in the construction industry under five groupings. The general response rate was 69.6% of the respondents were from small firms, 30.4% of the respondents were from big firms (see Table 2).

TABLE 2 DISTRIBUTIONS OF THE DIFFERENT TYPES OF FIRMS IN THEIR SIZE CATEGORY

Size of the firm	Type of the firm					Total
	Civil contractors	Building contractors	M & E contractors	Consultancy firm	Sub contractors	
Small firms	0	26	10	30	12	78
Big firms	15	8	5	0	6	34
Total	15	34	15	30	18	112

The above table shows that all civil contractors were big firms, building contractors, M&E contractors, sub contractors and sub contractors were small firms, while consultancy firms were all small firms.

4.2 Position of the Respondents

In order to able to understand how knowledge flows, this study considered the different job positions of the respondents. 25.9% of the respondents were project managers, 17% were Architects, and 11.6% were consulting engineers (see Table 3). The job positions and the respective tasks and responsibilities usually involve the flow of information depending on the organization structures in place. Therefore project managers are a source of information in the construction industry.

TABLE 3 DISTRIBUTION OF THE POSITION OF THE RESPONDENTS

Position of Respondent	Percentage Distributions
Project manager	25.9
Architects	17.0
Quantity surveyors	16.1
Consulting engineers	11.6
Sub contractors/suppliers	16.1
Managers	13.4
Total	100

4.3 Employees' Characteristics

The research showed that the biggest percentage of the employees are casual (labor) at 51%, followed by the semi skilled 31% and highly skilled at 18% of the construction labor force (see Table 4). Employees are considered a key factor in the determination of the firms' performance and the management of knowledge is especially curial when it comes to their level of Education and skills provided. Employees who were considered as fully skilled included university graduates and those that were considered as semi skilled or skilled included the diploma holders and those from tertiary institutions and finally casual workers were mainly the unskilled or the uneducated that only provided manual labor. Organizational performance can be improved, when people communicate and share best practices, lessons learned, experiences, insights, as well as common and uncommon sense however research has shown that these factors are easily implemented when the labor force is literate.

TABLE 4 NUMBERS OF EMPLOYEES IN THE DIFFERENT FIRMS

Type of the firm	Total Number of Firms	Total Number of Employees
Civil contractors	15	1500
Building contractors	34	8715
M & E contractors	15	578
Consultancy firm	30	156
Sub contractors	18	1507
Total	112	12453

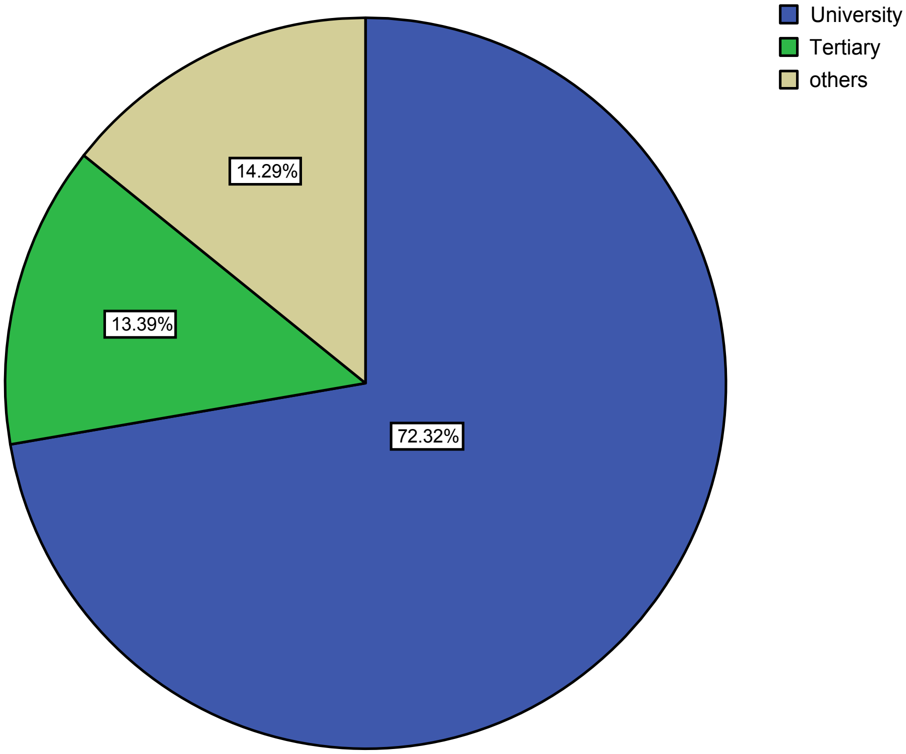
The above table indicates that building contractors had the biggest number of employees, 8715 followed by the sub contractors, 1507 while consultancy firms had the least number. The large numbers of employees are employed by the building contractors. It is true that most of these employees in this type of firm are the casual laborers. This means that most of the data is lost as people move from one project to another and since the majority of the labor is casual and not very skilled codifying and sharing of knowledge, ideas would be limited to the few highly skilled staff that is obvious educated (see Table 5).

TABLE 5 KINDS OF LABOUR AMONG THE DIFFERENT EMPLOYEES

Categories	Percentage distribution
Fully skilled	18%
Skilled/semiskilled	31%
Casual (labor)	51%
Total	100%

Labor was categorized as semi-skilled, fully skilled and casual labor. Analysis shows that the 51% of the employees are casual laborers, followed by 31% who were semi skilled and only 18% of the respondents were fully skilled.

FIGURE 2 DISTRIBUTION OF THE LEVEL OF EDUCATION OF THE RESPONDENT



Analysis also showed that majority 72.32%, of the respondents had university level of education followed by 14.3% who were others while tertiary level education accounted for 13.4% of respondents (see Figure 2). This means that there are high levels of literacy in this sector at the management level. The highly educated managers of the industry are expected to give great contributions to their enterprises by way of applying an appropriate strategy where necessary.

4.4 Organizational Characteristics

The study assessed the company annual turnover as one of the key indicators of the firms' performance. The annual turnover was categorized into four categories i.e., 0-$50,000, $5m-$7.5m, $7.5-$10m and

>$10m B. Respondents mentioned the category corresponding to their annual turnover. Companies were divided according to the type and size which in turn means different annual turnover (see Table 6).

TABLE 6 ANNUAL TURNOVER IN THE DIFFERENT TYPES OF CONSTRUCTION FIRMS

Annual Turnover(US$)	**Type of the Firm**					**Total**
	Civil Contractors	Building Contractors	M & E Contractors	Consultancy firms	Sub contractors	
0-$50,000	0%	00%	23.1%	76.9%	0%	100%
$5m-7.5m	0%	69.0%	2.4%	0%	28.6%	100%
$7.5-$10m	48.4%	16.1%	16.1%	0%	19.4%	100%

The least turnover of 0-$50,000 was only mentioned in the M & E contractors and consultancy firms while as the highest turnover of $7.5-$10m was achieved in all types of firms except consultancy. Consultancy firms got the biggest share of 76.9% in the 0-$50,000 category of turnover while building contractors have a larger share of 69.0% in the $5-$7.5m and civil contractors dominated the category of $7.5m-$10m with 48.4%.

TABLE 7 DISTRIBUTION OF THE ANNUAL TURNOVER DEPENDING ON THE SIZE OF THE FIRM

Firm size	Annual turnover (US $)			Total
	0-$50,000	$5m-7.5m	$7.5-10m	
Small firm	39	38	1	78
Big firm	0	4	30	34
Total	39	42	31	112

Overall analysis indicates that irrespective of the size of the firm, only 27.7% get an annual turnover of $7.5-$10M while 37.5% get turnover of $5-7.5m (see Table 7).

4.5 Knowledge Management

This study looked at knowledge management from different perspectives such as the different sources and components of knowledge management, different approaches to knowledge management, how knowledge management can be improved, the different challenges in the construction industry, and how knowledge is documented.

4.5.1 Main Sources of Knowledge

There are various sources of knowledge according to the respondents though they have different levels of efficiency. The efficiency of knowledge can also depend on the flow channels through which the knowledge is acquired and utilized. 15.8% of respondents mentioned fellow workers as the main source of knowledge, 14.2% mentioned operating manuals and the individual as other important sources of knowledge. This highlights where knowledge can be gotten and stored. Fellow workers as the main source of knowledge (tacit) can be improved by encouraging more interactions (socializing) between fellow employees (see Table 8).

TABLE 8 SOURCES OF KNOWLEDGE IN THE CONSTRUCTION INDUSTRY

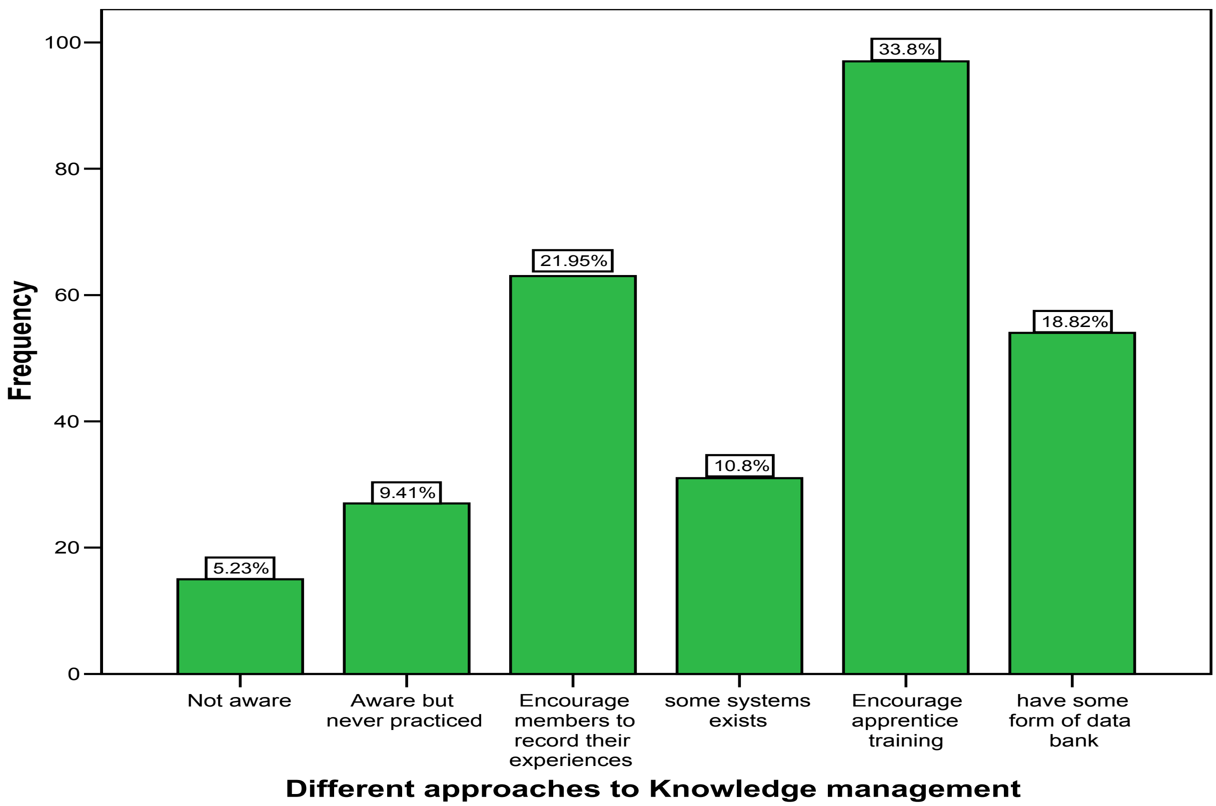
Source	**Percentage**
Self	14.2
Office discussion	9.8
Your boss	9.2
Fellow	15.8
Consultants	11.6

Competition	5.3
Internet	13.8
Library/news	5.3
Operating manuals	14.2
Other comments	0.7
Total	100

4.5.2 Approaches to Knowledge Management in the Construction Industry

The study outlined the different approaches to knowledge management and 33.8% of the respondents noted that there is need to encourage apprentice training, 22% identified that there is need to encourage members to record their experience and that 18.8% have a data bank (see Figure 3). Data banks are identified as the major approaches to knowledge management, this should be encouraged and every organization should have some form of data bank.

FIGURE 1 DISTRIBUTION OF THE MAIN APPROACHES TO KNOWLEDGE MANAGEMENT



4.6 Challenges in the Construction Industry

The study looked at the different challenges affecting performance and knowledge management in the construction industry. Table 9 shows the different challenges as identified by the respondents.

28.8%of the respondents noted that lack of time to properly assimilate knowledge was the major challenge while 24.3% identified high cost of implementing ideas a challenge. 9% identified lack of direct support from top management as a challenge to KM implementation in the construction industry. Lack of time is seen as the major challenge affecting the construction industry. Project managers spend more time on the post contract review as means of reflecting on the knowledge acquired. This will help the organization to better understand their project and also learn from their mistakes.

TABLE 9 MAJOR CHALLENGES AFFECTING PERFORMANCE IN THE CONSTRUCTION INDUSTRY

Challenges	Percentage
Access to knowledge is a problem	9
Lack of time to properly assimilate knowledge	28.8
No direct support from the top management	21.6
Ideas are expensive to implement in Uganda	24.3
Lack of awareness	9.5
Difficult to share knowledge across project	6.8
Total	100

4.7 Ways of Improving Performance

Given the challenges to performance mentioned in the section above, it was worthwhile to understand how the different construction firms are improving performance. The research investigated different ways of improving firms' performance and knowledge management in the construction industry (see Table 10).

TABLE 1 DIFFERENT WAYS OF IMPROVING THE FIRMS' PERFORMANCE

Ways of improving	Percent
Improve communication skills	18.2
Improve computer usage	12.1
Devise new effective ways of production	20.8
Revisit the firm's culture	8.9
Changing the firm's strategy	10.5
Changing management style and structure	15.0
Review all personnel employed	14.5
Total	100

20.8% of the respondents indicated that the only way to improve performance is to devise new effective ways of production, 18.2% looked at improving communication skills as a way of improving performance and 15% thought changing the management styles and structure could improve performance. Improving computer usage, changing the firm's strategy and reviewing all the employed personnel were also noted as possible ways of improving performance.

4.8 Documentation of Knowledge

One of the benefits of post contract review is accessing the level of knowledge acquired. This involves codification of tacit knowledge as project members record their experiences etc, this valuable knowledge must be stored for future use. Different ways of how knowledge is documented and disseminated in the construction industry were outlined and different firms suggested different ways which included Reports, soft copies, Newsletters and others.

TABLE 2 KNOWLEDGE DOCUMENTATION

Way of documentation	Percentage
Reports	37.5
Newsletters	7.2
Soft copies	38.9
Other comments	16.3
Total	100

Respondents were further asked on how they document their knowledge and 38.9% use soft copies to document their knowledge, followed by use of reports 37.5%, and newsletters were only noted by 7.2% of the total respondents (see Table 11).

4.9 Knowledge Management Concept

The study looked at the different forms and components of knowledge management and these included explicit knowledge and tacit knowledge. Aspects such as Leadership, innovation, communication capabilities, knowledge transfer, knowledge sharing and performance were measured. The information was collected using the ordinal questions which were coded as 1=strongly disagree, 2=disagree, 3=agree and 4=strongly agree.

4.9.1 Explicit knowledge

55.4% respondents strongly agreed that they had acquired enough output from previous projects while 40.2% disagreed and only 4.5% agreed. This is an indication that previous projects significantly contributed to performance of ongoing projects. Documented materials being of benefit to knowledge power and knowledge management, respondents were asked on whether they had acquired enough documented materials related to customer industry and 70.5% agreed to it. 51.8% of the total respondents agreed to have secured enough documented materials related to construction. 40.4% of the respondent disagreed with applicability of explicit knowledge, with only 23.2% strongly agreeing to having applied it.

TABLE 3 AVAILABILITY OF DOCUMENTED MATERIALS IN KNOWLEDGE MANAGEMENT

Statement		SD	D	A	SA	Total
I have secured enough documented materials related to construction	%	16.1	32.1	27.7	24.1	100
I have acquired enough documented materials related to customer industry	%	-	29.5	57.1	13.4	100

Results in the table above show that majority of respondents agreed they had secured enough documented materials related to construction 51.8% strongly agree while 48.2% strongly disagreed with the statement. On the other hand, 70.5% of the respondents agreed that they had acquired enough documented materials related to customer industry (see Table 12).

TABLE 4 INNOVATIVENESS OF CONSTRUCTION FIRMS

Statement		SD	D	A	SA	Total
The firm sees innovation as the key to continuous survival	%	67.9	-	17.9	14.3	100 %
The firm keep launching new products or services	%	53.6	18.8	13.4	14.3	100 %
The firm is one step ahead of its major competitors in introducing its products or services to market	%	40.2	4.5	27.7	27.7	100 %
If the firm is one step ahead of its major competitors in introducing its products or services to the market, usually these products or service make good profits	%	28.7	17.0	22.3	31.9	100 %
The firm pursues its own successful business model	%	16.1	-	46.4	37.5	100 %
The firm has higher research & development expenses as a percentage of sales than its competitors	%	67.9	32.1	-	-	100 %

4.9.2 Innovation

The study asked several questions regarding innovation as a component of knowledge management in a sense where the persons adopt new ideas from knowledge attained to develop more products or services.

The table above shows that 67.9% of the respondents strongly disagreed that firms don't see innovation as the key to continuous survival while 32.2% agreed with the statement that "The firm sees innovation as the key to continuous survival". As a result of innovation not being seen as vital, 53.6% of the respondents strongly disagreed with the statement that, "Firms keep launching new products or services". The table also shows that the different construction firms have their own business models and therefore innovation is not seen as important. 37.6% of the respondents see their firms as not innovative 23.9% of the respondents see their firms as innovative (see Table 13).

4.9.3 Performance

Respondents were asked to assess the performance of the firms in the construction industry and the table below show the distribution of the different responses on a strongly disagree - strongly agree scale.

TABLE 5 PERFORMANCE OF CONSTRUCTION FIRMS

Statement		SD	D	A	SA	Total
The firm has higher long-run profitability than its competitors	%	40.2	18.8	13.4	27.7	100
The firm has higher growth prospect in sales than its competitors	%	40.2	4.5	42	13.4	100
The firm's employees have high job satisfaction than those of competitors	%	24.1	33.9	42.0	-	-
The firm's employees have higher productivity that those of competitors	%	40.2	4.5	42.0	13.4	100
The firm has better goodwill than its competitors	%	24.1	29.5	17.9	28.6	100
The firm has better quality products and services than its competitors	%	24.1	20.5	41.1	14.3	100

Under this question, Firms were queried about their long term profits benchmarked against the competition, 59% of the respondents strongly disagreed while in regards to firms having higher growth prospect in sales than its competitors, 54% of the respondents agreed with the statement. The highest percentage of the respondents 58% disagreed with the statement that: "The firm's employees have high job satisfaction than those of competitors". Concerning employee productivity, most respondents 55.4% agreed that their firm's employees have higher productivity that those of competitors while 53.6% of the respondents disagreed with the statement that their firm has better goodwill than its competitors. The study also highlighted that 55.4% employees agreed that their firm had better quality products and services than its competitors (see Table 14).

Lastly, it is worthwhile to note that most respondents disagreed with the statements that, "the firm has higher long-run profitability than its competitors", "the firm's employees have high job satisfaction than those of competitors" and that "the firm has better goodwill than its competitors". While the minority, agreed that their firms have higher growth prospect in sales than its competitors and their firms have better quality products and services than its competitors.

4.9.4 Correlation Analysis

As shown in Table below, the correlation analysis revealed that knowledge management and innovation were positively associated with organizational performance construct at the 0.01 level, with values of the

Pearson coefficient of correlation (r) ranging from 0.635 to 0.825. The relationships between the variables are as indicated below;

TABLE 6 CORRELATION ANALYSIS

	Knowledge Management	Innovation	Organizational Performance
Knowledge Management	1.000		
Innovation	.635**	1.000	
Organizational Performance	.825**	.769**	1.000
** Correlation is significant at the 0.01 level (2-tailed).			

The results showed that the Knowledge Management is positively related to the Organizational Performance (r = .825**, p<.05). And Innovation was also positively related to Organizational Performance (r = .769**, p<.05) (see Table 15).

4.9.4 Regression analysis

The regression analysis was used to predict and explain the variance of organizational performance and also to determine the most influential constructs of organizational performance. The model was obtained to determine the extent at which the Innovation and Knowledge Management can explain the Dependent Variable which is Organizational Performance.

TABLE 7 REGRESSION TABLE

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model	B	Std. Error	Beta		
(Constant)	.315	.366		.861	.403
Innovation	.234	.089	.412	2.640	.019
Knowledge Management	.464	.129	.563	3.606	.003
Dependent Variable: Organizational Performance					
R Square : .781					
Adjusted R Square : .752					
F Change : 26.824					
Sig. F Change : .000					

The regression model, as in Table 16, shows that the Predictors can explain up to 75.2% of the Organizational Performance (Adjusted R Square =.752). The results showed that the Knowledge Management (Sig. =.003) is a better Predictor of Organizational Performance than Innovation (Sig. =.019). The regression model is (Sig. F Change =.000).

5. DISCUSSION

Employees are a key factor in the determination of firms' performance and knowledge management especially based on their level of education and the skills they exhibit. From the results it shows that most of the employees in the construction sector are casual labors not on permanent basis. This is in accordance with the findings of Aliniatwe et al. (2009). The distribution of respondents was 8.9% on permanent terms, 45.2% on short contract and 45.8% on casual basis. This means that the construction sector basically employs on short term basis. Hence the assimilation of knowledge becomes even more difficult since members are always on the move from project to project.

Innovation is a process in which knowledge is acquired, shared and assimilated with the aim to create new knowledge, which embodies products and services. It is related to change, which can be radical or incremental. According to the study there was a positive correlation between knowledge management and innovation (p<.05) which is in agreement with Cavusgil et al. (2003) research that knowledge management is a mechanism through which innovation complexity can be addressed. He argues that knowledge management assists in both managing new knowledge created through the innovation process, and also in managing existing knowledge as a resource used as input to the innovation process. The study further highlights that firms that create and use knowledge rapidly and effectively are able to innovate faster and more successfully than those that do not. *Knowledge management and innovation configuration determine how the firm can capitalize and create new knowledge, providing context wherein new product development efforts are designed, developed and completed (Shani et al., 2003).*

Knowledge management ensure that explicit knowledge, which can be used as input to the innovation process, is gathered internally and externally and provides the means of ensuring the leverage of knowledge to determine the gaps in the explicit knowledge base of an organization that could potentially negatively impact the organization's innovation program.

Findings suggest that knowledge management is a key to improving organizational performance. It reveals that there is a strong positive relationship between knowledge management and firm performance. For companies pursuing excellence in this era of hyper competition, restructuring, lowering costs, and enhancing product or service quality are no longer sufficient. According to Sabherwal and Bercerra- Fernandez (2003), Firm's performance is improved through an improvement of intermediate (or individual) outcomes, following the implementation of knowledge management. In today's knowledge-based economy, the competitiveness of firms is directly tied to the ability to effectively create and share knowledge both within and across organizations. Managing knowledge as a strategic business asset is crucial for achieving a competitive edge in the construction markets, where competition keeps margins tight and construction projects are becoming more complex. With the advent of the knowledge economy, knowledge itself has become not only a strategic asset but also the main source of organizational performance (Adenfelt and Lagerstrom, 2006).

Innovation fuels organizational growth, drives future success, and is the engine that allows businesses to sustain their viability in a global economy (Gaynor, 2002). Porter and Stern (2001) argued that companies must be able to create and commercialize a stream of new products and processes that extend the technology frontier, while at the same time keeping a step or two ahead of their rivals. This study showed that innovation has a positive correlation with organizational performance which agrees with Chaminda (2007) results. A firm has to be innovative in order to survive in the volatile environment hence innovation is a base for firm survival (Cavusgil et al 2003). However much innovation positively relates to knowledge management, it is not appreciated in the construction industry. According to this research respondents highlighted that they do not see their firms as being innovative. For the construction industry respondents believe that improved communication skills will lead to improved organization performance thus there is need for more emphasis on innovation in the construction industry if an organization is to achieve better performance and stay ahead of its competitors.

6. CONCLUSION

Construction firms all over the world are increasingly being challenged by high-cost pressure, shortened project cycles and increasing competition. Within a business environment, where fast and reliable access to knowledge is a key success factor, the efficient handling of organizational knowledge is crucial. Within most developing countries, the domestic construction industry is made up of a few larger firms, often state-owned, and a large number of small firms. About half of all construction enterprises employ fewer than fifty workers; with a considerable percentage of the labor force informal (Copplestone, 2006).

Knowledge plays a key role in today's fast-changing business environment and contributes largely towards sustained organizational performance. Awareness of the nature of knowledge is very important, which has probably not yet been sufficiently understood and implemented. As such, tacit knowledge based on skills, experience and talent of people is considered to be relatively unexplored and underutilized when compared to the work on explicit knowledge. It is important for both innovation and knowledge management professionals to understand the systemic relationship between these concepts and the value that it can generate in respect of creating and maintaining sustainable competitive advantage for organizations.

The purpose of conducting this research was to study the impact of knowledge management in the construction industry in Uganda. The study concludes that within the context of construction organizations, managing knowledge is of fundamental importance for organizational performance. The organizations within the construction industry have been managing knowledge informally for years. The increasing need to manage the challenges facing the industry in today's knowledge economy demands a structured approach to knowledge management and alignment of knowledge management with organizational strategy. Knowledge plays a key role in today's fast-changing business environment and contributes largely towards sustained business performance. Awareness of the nature of knowledge is very important, which has probably not yet been sufficiently understood. As such, tacit knowledge based on skills, experience and talent of people is considered to be relatively unexplored and underutilized when compared to the work on explicit knowledge.

This research has revealed the importance of knowledge both tacit and explicit in relation to organizational performance. It has further highlighted the relevance of knowledge management in the construction industry. According to the study there exists a positive relationship between knowledge management and innovation using Pearson's correlation coefficients with P-values less than 0.05. Through this research it was also established that knowledge management had a positive significant relationship with organizational performance where knowledge management can explain up to 82.5% of organizational performance. Innovation was also found to be positively significant to performance but contributes a lesser percentage to performance than knowledge management.

Analysis of these findings contains a message that there is a need for improved knowledge management in the construction industry. A significant number of employee and other players in the construction industry are still not fully aware of the importance of knowledge management. Therefore there is a need to direct attention to the construction industry especially the factors that limit its performance and knowledge management application. Since the construction industry is project based, individuals and the knowledge they create are the most critical features for improving organizational performance and eventually collective learning. Construction firms require very efficient knowledge management if they want to become competitive.

There is a need to foster organizational culture that encourages individuals to create, store and share knowledge as well as to define which knowledge is valuable and how to use it. Following results of the study the importance of knowledge management activities, including knowledge sharing and learning, construction firms should consider how knowledge management can be implemented successfully.

6.1 Policy Recommendations

The findings demonstrate the need for organizations to embrace knowledge management. A large number of employees, clients, professionals in the construction industry are not aware of the benefits of knowledge management. This research has also showed that innovation is important for a firm to stay ahead of its competitors. This can be done by introducing new products and through product development. Although knowledge management and innovation are not fully appreciated in the construction industry in Uganda, the following are recommended:

- Professionals in the field of construction should develop different associations and societies to cater for different needs and activities such that the construction industry can become more organized and transparent. These professionals should be able to assist the construction firms adopt Knowledge management
- Research into knowledge management in the construction industry should be ongoing to develop appropriate localized strategies to capture, share and store knowledge.
- There is also need to sensitize the importance of innovation in organizational performance.

- More research to be undertaken to investigate the level of innovation in the Ugandan construction Industry

The study has highlighted the challenges of knowledge management in the construction industry therefore they should be put into consideration as they develop the appropriate strategies for knowledge management. Knowledge management strategies need to be explicitly formulated and measured according to overall organizational objectives. In light of the research, it was established that knowledge management had a strong positive relationship with organizational performance. Therefore the construction industry should embrace knowledge and know that it significantly improves on the firm's performance when managed well. There is need however for more research in knowledge management and its implementation particularly in the Ugandan construction industry.

Considering the ever-increasing complexity of knowledge management especially in the least developed countries, this study should provide organizations with the necessary requirements to enable them respond to changes within the industry which in turn will improve on their performance.

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STUNDE NULL 1978 – PERCEPTIONS OF PRE- AND POST-REFORM CHINA

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ABSTRACT

The paper identifies a discontinuity in the literature on the economic development of the People's Republic of China. In assessing development mechanisms such as the communes (*renmin gongshe*) and rural industrialisation, the contemporaneous development economics literature argued cogently that such mechanisms were effective in achieving key development goals, to some degree outweighing obvious policy errors. In contrast, the post-1978 literature has tended to dismiss the significance of any such developments in the Maoist Period. The paper seeks to address this discontinuity by placing China's development path within the context of a broader East Asian development schema.

Keywords: *China, Development, Technology Diffusion, Communes, renmin gongshe, Town and Village Enterprises, Tiger Economies*

1. INTRODUCTION

The intrusion of political ideology always distorts economic theory. The intrusion is particularly evident in the analysis of industrialisation in East Asia, arguably for two reasons. The first is the record of failure that is the history of late industrialisation. In the century since the end of World War One, the economies that have emerged from underdevelopment, to subsequently achieve rapid economic growth and eventual economic maturity, number a hefty total of three. These Fortunate Three comprise the Republic of Taiwan, the Republic of Korea and (included perhaps prematurely) the People's Republic of China (PRC). The first pair are usually counted in that larger and very well known group which, with the addition of Hong Kong and Singapore, have been dubbed the Asian Tigers. One of the contentions of this paper which is sure to be challenged is that, *pace* Ann Krueger [1988] and others, these two city states should be excluded from the list of successful late industrialisers. The performance particularly of the latter is extraordinary, with Singapore's growth rate averaging 8%, sustained for over forty years [World Bank]. The growth of both Singapore and Hong Kong is outstanding, but from the outset they were fortunate to lack the crucial problem of underdevelopment: a large agricultural hinterland burdened with a labour surplus, and with technological backwardness if not active technological regression. The economic development of these two urban economies is remarkable, but if industrializing Dacca and New Delhi were the core of the development problem then South Asia would be an economic paradise today. Transferring technologies to the major urban centres of developing countries has never been difficult; it is the problem of diffusing those technologies through the agricultural periphery that has so often proved insurmountable.

Even if this argument is rejected and the City Tigers are included in the list, then the ranks of successful late industrialisers swells to a total, still less than impressive, of five. This lack of achievement is not necessarily the fault of Development Economics, but it leaves a scanty dataset from which to measure its success. There has inevitably been heated debate as to the source of the infrequency with which Development Economics has yielded developed economies. Could it be traced to a failure of orthodox economic analysis, as argued by some? (The view of White and Wade in White [1988] is typical). Or could it be traced rather to the deadening hand of government pressed within those developing countries that have remained stubbornly undeveloped and obstinately, miserably poor, whose failure is therefore an affirmation of free market theory. (Friedman and Friedman [1980] are archetypal exponents of this view).
Therefore there is a choice. A failure to develop can be blamed either on the absence of free markets, or on the presence of development theory that is too single-mindedly focused on the supremacy of such free markets. The debate becomes more heated given that all the successful Tigers were positioned squarely on the frontlines of the Cold War (even Singapore, sitting astride the strategically vital Straits of Malacca). Political ideology intrudes into all economic theory, but it so happened that the champions of successful economic development were also champions in the survival of the Free World. Taiwan and South Korea had active Cold War frontiers against foes in both geopolitical terms, and in terms of economic theory.

Emphasising South Korea and Taiwan as free market successes became important not just for the credibility of the theory but for the saving of democracy as we know it. Both possessed doppelgangers to their West and North, with whom their economic performance could be compared and favourable conclusions drawn for the purposes of Development Economics, and which would give hope also that the military threat in whose path they stood would be successfully turned away. The debate was further politicised when China, as a quintessential Cold War enemy, in a sense changed sides in the 1980s. That is, the PRC embraced, if not quite truly free markets, then at least an openness to foreign investment and export-driven commerce that conformed in those essential elements with the orthodox theory. (Note for example the claim by Schlack, that "[s]ome have interpreted these recent changes as indicating the triumph of capitalism over socialism" [1989, 155]).

This then is the second reason for the heat of the debate over the causes of the East Asian miracle. Not only is the number of successful late industrialisers spectacularly small, so that the paths of the few that have succeeded must be pored over for evidence supporting one side or the other, but these lead players in applied economic theory were also the lead players in Cold War political reality. One must therefore enter the debate over the origins of East Asian success with caution, and with some trepidation, that a new point of view will be typecast and pigeonholed into battlelines drawn long ago and as static as trench warfare.

To this must be added the human element, in discussion of the development path of the PRC in particular. From its opening stages, China's development drive has raised up enormous humanitarian issues alongside the geo-political and theoretical. For example, given the cost in human life, it is difficult to sympathise with the errors of the regime in commencing the Great Leap Forward in 1958. By 1962 this experiment in changing the balance of the economy, shifting farm labour into by-employments in manufacturing, had been recognised by Beijing as an error disastrous for both sectors. Failure did not lead to the scale of genocidal purges undertaken by Kampuchea's Pol Pot regime, after a very similar failed experiment (the drawing of agricultural labour into infrastructure work, with the inevitable collapse of agricultural output blamed on treachery and vented on scapegoats from the ranks of the regime). Nevertheless there were purges also in China, with 70-80% of the Party at key national and provincial levels purged at least temporarily by 1969 [Riskin, 1987, 186].

The policy failure of the GLF was soon followed by another massive waste of human capital in the course of the Cultural Revolution. This was a further shift in economic policy, part of the move towards rural industrialisation or "walking on two legs" (the other leg being a continued role of urban heavy industry). The change in economic policy was masked by strident political activity. The political activity was designed to muster support for the economic policy, but as was not uncommon, the politics came to compete with, and eventually blocked, many of the more fundamental economic aims. To the economic cost must be added the sheer insult to human intelligence delivered by adherents to the cause, witness the endless questioning of political allegiances, based on criteria such as the precise angle of the profile of Mao in the poster on the living room wall. Any discussion of the <u>economic</u> policies of the period carries with it the danger, that it will be seen as sympathy for the <u>political</u> mindset that was capable of such abuses to the human spirit. Mustering sympathy for any aspect of the regime's policies is a strain, and may seem even a betrayal of the victims of such actions.

To this, must be added other government errors of the time, such as the encouragement of rapid population growth as a military asset *per se* [Shapiro, 2001]. This was a policy that was senseless even in terms of its prime military purpose, survivability of the country in nuclear war, let alone the economic damage given that it is the major source of much of the poor performance in GDP per capita growth in the period. Such errors add to the difficulty in finding coherence in the economic policies of the regime, and provide ample ammunition to its critics. Late industrialisation is predicted by Gerschenkron [1962] and others to be traumatic, and has historically always been costly in human terms for at least one generation (sacrificed, it is said, for those that follow). Living standards must be suppressed to provide resources for industry, sectoral change leaves often insufferable adjustment costs, violent ideological conflict becomes the norm. However the human cost of industrial revolution in the PRC seems to stem as much from the capriciousness and policy errors of the regime as it does from the inevitable economic sacrifices of late industrialisation.

Entry into the debate on the successful industrialisation of East Asia, and in China in particular, is therefore akin to walking into a minefield. However the debate is a crucial one, because of the aforementioned dearth of examples of successful late industrialisation. It is essential that the lessons be drawn correctly from the success of the Three – Taiwan, South Korea and the PRC – because Development Economics has naught else but their real world success, and its own abstractions, upon which to base policy prescriptions for other Less Developed Countries (LDCs).

A general aim of this paper is therefore to review the conclusions that can be drawn from East Asian industrialisation. The specific purpose is to raise concerns about the lessons currently being drawn from the process of development in the People's Republic of China. There is much in China's development path to give support to orthodox free market economics. If the transition in China, from (something like) a centrally planned economy (always less evident in the PRC than in the Soviet Bloc) to (again, something like) a free market economy, can be traced to 1978, then the rate of growth since then has been phenomenal, surpassing even that of the hitherto unchallenged Japanese Miracle economy of the 1950s and 1960s. The Chinese case thus gives particularly strong support for a free market explanation for East Asian economic success. The debate surrounding her fellow Asian Miracles of Japan, Taiwan and South Korea, has always centred on the degree to which they could be seen as free market economies, given the obvious presence of government in their key industries. Adherents of free market economics and of government intervention alike could draw comfort from one or other aspect of their industrialisation. The undeniable shift of economic strategy in China, on the other hand, followed by an undeniable quantum leap in the growth rate, must give a large amount of credibility to the view that a movement towards free markets is at the core of East Asian growth, especially amongst those already disposed to see East Asia's success in this light.

The actual rate of growth of the pre-1978 economy has long been disputed [note for example Riskin 1987, 185; White, 1988, 159]. The issue is muddied by the lack of credibility of official data, and by the above-mentioned population policies, which caused stagnant per capita growth figures as well as the daily facts of life of ration cards and shortages. These seem to belie claims of rising output in the Maoist period. Where output increases were achieved, they seem to have come largely from increased acreage and increased labour intensity in cultivation. The effect of the work points system in destroying incentives has been widely attested [eg Putterman, 1990, 89; Riskin, 1987, 92], and the sudden rise in output and output per head after reform of the system in 1978 is undisputed [Field,1988].

Few if any of the data on China's output growth can be considered reliable. However if even approximately true, the pre-1978 figures, as seen in Figure 1 below, are particularly damning. In an economy claiming the virtues of planning and an absence of volatile market forces, the precipitous falls in output in the 1960s <u>must</u> represent errors in government policy and in the strategy of growth, rather than fluctuations in Aggregate Demand. The high growth rates which follow these episodes give no comfort, in that they represent recovery from policy-induced troughs rather than genuine sustained growth. The figures for the Cultural Revolution (generally dated 1966-1969 [Riskin, 1987]) are particularly damning in that these years should have reflected a stable base of progress built up in the previous fifteen years.

FIG.1 CHINA ECONOMIC GROWTH

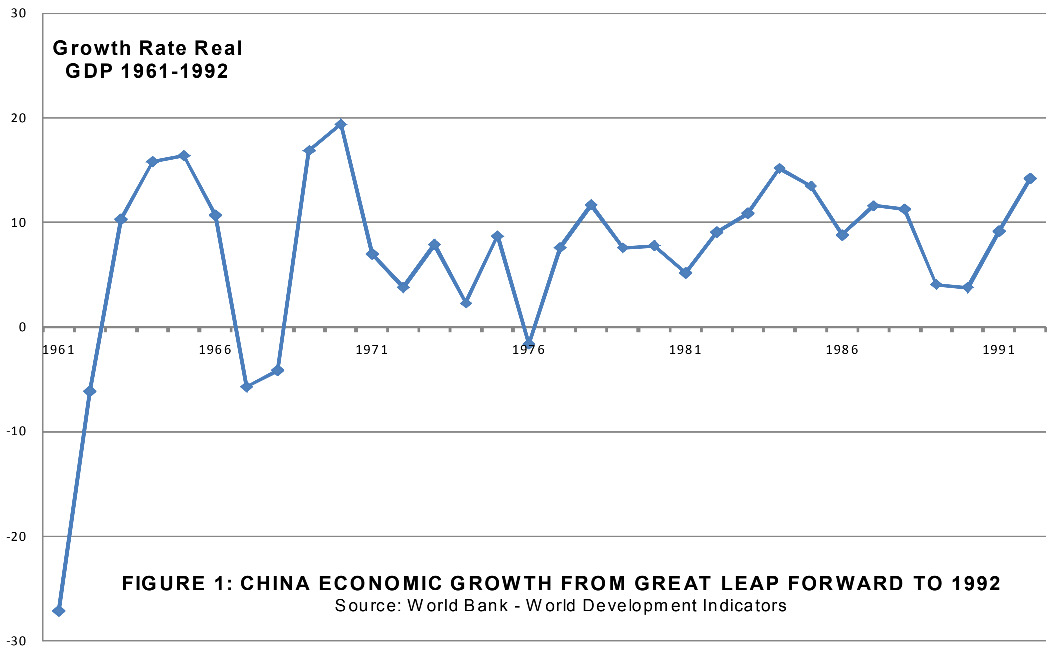

FIGURE 1: CHINA ECONOMIC GROWTH FROM GREAT LEAP FORWARD TO 1992
Source: World Bank - World Development Indicators

The concern of this author is that, on the basis of evidence such as this, 1978 has come to be seen as a Chinese turning point in the manner of Germany in 1945. The year 1978 in China thus becomes, to coin the phrase applied to the Germany of three decades earlier, a *stunde null* or zero point. In emphasising the apparent success of the Chinese economy post-1978, there seems to be a denial of its very existence prior to 1978. There is a view that there was no economic change, and certainly nothing that could be construed as progress, in the pre-1978, pre-Reform period. In fact, institutions such as the commune system are sometimes described as having taken the economy backwards, despite the difficulty and even the absurdity of trying to picture the abyss of the 1930s and 40s in the China of the 1970s.

At best, this view seems to represent an overemphasis on output increases as a measure of economic development, despite their being only the *sine qua non* of economic growth. At worst, this is a failure to recognise a question crucial to Development Economics, given China's role as one of the few examples of the success of that craft. To what extent did the growth of the 1980s and beyond come from groundwork laid in the 1960s and 70s, and perhaps even in the 1950s in the heavy industrialisation drive that began the decade and in the Great Leap Forward at its close.

Section 2 of this paper reviews the general pattern of East Asian industrialisation, in a way that can claim to differ in certain aspects from that commonly found in the literature. Section 3 focuses on pre-1978 China, as an example of that process of industrialisation. Section 4 suggests a focus for research that would position the record of Chinese industrialisation as part of the broader pattern of successful late industrialisation.

2. A GENERAL SCHEMA OF EAST ASIAN INDUSTRIALISATION

With the aim of saving a thousand words, this section is introduced with a diagram, Figure 2 below, summarising the options available to an LDC seeking industrialisation.

The diagram attempts to summarise the literature on East Asia as divided into two opposing camps. It is necessarily generalising, but in a way not profoundly unfair to either view, and it allows also the exposition of an alternative third interpretation of East Asian development. The three circles represent the options facing an economy attempting late industrialisation. As a summary of one of those options, the circle on the left is unlikely to be controversial. It depicts a free market approach based on comparative advantage. Government is confined to as small a role as possible, one not far beyond protection of private property rights. Typical is the contention of Helen Hughes, Anne Krueger and others that a reduction in intervention by government is in itself the difference between successful industrialisation and failure. (Examples of this view include Hughes' preface to her edited volume *Achieving Industrialisation in East Asia* [1988], though there is a diversity of opinion within the text; and Anne Krueger (1998)).

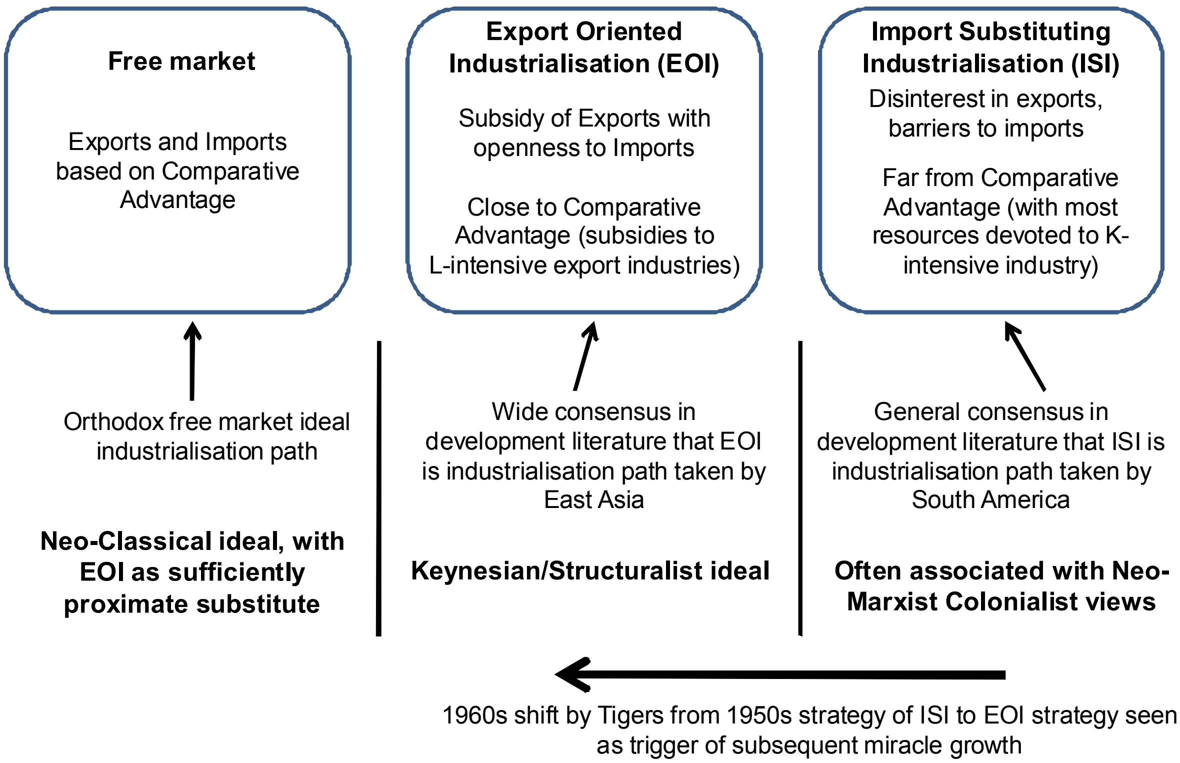

FIGURE 2: SCHEMATIC OF INDUSTRIALISATION STRATEGY CHOICES FACING LDC

There are no barriers to imports, so entrepreneurs are free to import the cheapest possible inputs, perhaps including raw materials and components, and certainly including machinery. There are, equally, no subsidies or other assistance to exporters. Given the characteristics of the typical LDC, of abundant labour and low savings (due to low income), a likely growth path is specialisation in agriculture and labour-intensive industry. The latter will particularly involve the assembly of knowledge- and capital-intensive components into consumer durables for re-export, in the manner seen, admittedly with varying degrees of government support in a departure from the ideal, in the economies of South East Asia.

At the opposite extreme is the option commonly known as Import Substituting Industrialisation (henceforth ISI) intended to build up a complete industrial economy from within. Arising particularly from the experiences of the Great Depression and the export pessimism of Prebisch [1958], Singer [1950], Frank [1967] and others in the 1940s and 1950s, it was argued that international markets would never be sufficiently open nor sufficiently buoyant to allow an LDC to industrialise by relying on them. Therefore capital and other resources were drained out of potential export industries, and used to build up the more capital-intensive industries considered essential for modern development. In their infancy, and possibly ever after, these industries would be uncompetitive. High tariffs and other barriers to imports were thus a natural concomitant.

ISI is closely associated with South America, whence came much of the associated theory. It is difficult to judge such a path to industrialisation a success, there or anywhere else that it has been tried. With the attempt at industrialisation built only on domestic capital and domestic demand, the economy is left without the additions to aggregate demand provided by exports, and without the export income to sustain foreign debt and to acquire essential technologies. In terms of price theory, market prices are so distorted by import barriers and government subsidies and by the distance from comparative advantage, that the paucity of practical examples of success is unsurprising.

Therefore successful industrialisation is widely judged to come either from EOI or from free markets. A minority view within the Neo-Classical School holds that government intervention was limited even in East Asia, that East Asian economies were as close to free markets as any Western economy, and that their respective miracles arose from those free markets rather than EOI; this is evident in Krueger's later papers for the International Monetary Fund, such as "The Gorgeous East: What the East Asian economies can teach the world" [2004], and it is evident also in the survey of the Tigers by Woronoff (1986), with chapters on Hong Kong and Singapore not very imaginatively entitled "Capitalist Paradise" and "Capitalist Haven". Woronoff also notes Singapore's "forced saving" [134] through the Cental Provident Fund, though he does not permit this to alter a picture of government intervention as being extremely limited [126].

However this view is difficult to reconcile with the large anecdotal evidence of government intervention in the Asian economies. Indeed, Neo-Classical analysis attributes the region's 1990s decline to that government distortion of the market, as surveyed for example by Wade [1998], who quotes *inter alia* Alan Greenspan's claim that the Asian Financial Meltdown was the result of investment excesses caused by State intervention; similarly also Krueger and Yoo [2002]. In fact an interpretation of East Asia as a case of successful EOI, rather than of free markets, remains compatible with Neo-Classical theory; in other words, that East Asian success stemmed from an early and decisive shift away from ISI and a move towards, but not quite arriving at, a free market stance. Thus in contrast to the afore-mentioned minority within the Neo-Classical school, there has arisen a widely-held belief in the Neo-Classical literature that East Asia is an example of EOI or Export Oriented Industrialisation (again, Hughes edited volume [1988] contains a diversity of opinion within the text much of which is representative of this view).

In this majority Neo-Classical schema, East Asian industrialisation commences in the PRC and the Tigers with an attempt at heavy industrialisation, under a policy of ISI. This occurs in more or less all the economies in the 1950s, even in Singapore, when its horizons were limited to not much further than its Malaysian hinterland; the only exception is Hong Kong, with its obvious unsuitability as a location for heavy industry, as well as the colonial lack of interest in promoting it. This initial inward-looking approach is seen to fail in Taiwan and the PRC, and most glaringly in South Korea whose growth at the time was exceeded even by that of the moribund economy to the North. The rejection of this flawed strategy is marked by a subsequent liberalisation of the economy; in Taiwan in 1958-62, in South Korea in 1964-65, in Singapore with its departure from Malaysia in 1965, and in the PRC, though here the shift away from heavy industrialisation led to the perhaps even greater failure of the Great Leap Forward.

In the PRC, the change of strategy left the economy still without the benefit of market forces. However in the Tigers the shift to aggressive seeking of export markets was followed by a spurt in economic growth and in savings rates, and to large improvements in external balance, with Taiwan in particular achieving trade surpluses by the early 1970s. In the Neo-Classical literature, as noted earlier, the success of this period is attributed to the new <u>proximity</u> to the free market ideal represented by the shift from ISI to EOI.

There is acceptance that government intervention remains substantial, in the form of the export subsidies and other distortions that characterise EOI. Therefore the new higher growth rates must necessarily be lower than those achievable had the move all the way to a free market ideal been undertaken (a conclusion necessarily counterfactual given that the result of a move beyond the actual choice of EOI can only be surmised). However the government subsidies are for products that would have been produced anyway under comparative advantage, since it is only these products that have reasonable prospects for export success in highly competitive international markets. The distortions of price and economic outcome are correspondingly less. Given the combination of labour that is abundant and skilled (education being one of the roles properly left to the State) and entrepreneurs newly unconstrained by trade barriers and distorted prices, the proximity to free markets is sufficient to ensure miracle growth, even if those growth rates are lower than the fully free market potential. East Asia is seen to affirm the power of free markets even if their full potential is not realised.

An alternative view found outside the Neo-Classical literature, a minority overall but strongly argued, is typified by Wade [1988; 1998]. He represents a set of views compatible with Keynesian thinking (in the emphasis on government intervention to maintain aggregate demand) and Structuralist approaches (in the emphasis on market failure in LDCs, or indeed the absence of functioning markets altogether, and on government intervention as a solution). There is a point of consensus between the Keynesian/Structuralist literature and the majority Neo-Classical view, in their agreement that EOI was the path actually taken by East Asia. However in the former view, the path of EOI was the ideal route, rather than second-best-but-sufficient as in the Neo-Classical. EOI is seen as the ideal response to low incomes, and hence low domestic demand and savings, and to poorly functioning markets, particularly the financial sector with available savings generally locked away in the obsession with land ownership.

There is insufficient space here to fully substantiate this review of the literature on East Asia, and in particular to give this alternative Keynesian/Structuralist viewpoint the space it deserves. However the brief outline above does provide a platform, for an interpretation of the process of East Asian industrialisation which diverges from the literature from both camps which has grown up around it. This interpretation can be defended on its own merits if the above review of their literature is challenged, and differs somewhat from the picture drawn in that literature. This is not to deny the cogency of much of that scholarship, and particularly of the Keynesian/Structuralist school which has been particularly persuasive to this author. However much of the literature was generated prior to the, to coin a phrase, 'Chinese Miracle', and prior to the process of drawing lessons from it. The aim of what follows is particularly to place the new Chinese experience in context in the East Asian development process that preceded it.

A starting point is the observation of the elements of the East Asian experience which depart from the standard model of EOI. Two examples can be noted here. The first is the highly anomalous prevalence of capital-intensive industries in what should have been, given the tendency to EOI in East Asia, a labour-intensive industrialisation process.

For Japan this was noted by the wide ranging scholar Kozo Yamamura [1977] in his analysis of the Meiji military build up in the steam and steel industries. Yamamura notes the criticism of such policies (in economic terms, whatever their military justification) in reducing the economy's growth rate. He notes the risk that such criticism may ignore the benefits of this capital-intensive approach, most of all in driving technology transfer in the newly industrialising economy. Similar criticisms met the expansion of the Japanese steel industry in the 1950s which was decried as dangerously premature by no less than the Governor of the Bank of Japan, who advocated a policy, conforming to comparative advantage, of continued reliance on textiles [Patrick and Rosovsky, 1976].

Criticisms on theoretical grounds of the early rise of capital-intensive industries, driven by government intervention, are partly blunted by their quick domestic and export success (though criticisms on price theory grounds were revived amidst the macro failures of the economy in the 1990s). A common means of incorporating this success within orthodox concepts of comparative advantage, has been to argue that Japan and the East Asian economies achieved it by <u>anticipating</u> an approaching comparative advantage in the industries being promoted by government [eg Woronoff, 1990]. In this light the success of such industries is rendered comprehensible in orthodox terms, and the principle of comparative advantage is left intact.

This approach is unconvincing. It may be that industries such as steel and shipbuilding were ones in which conventional comparative advantage was to come later, given rising saving rates and capital surpluses, and increasing technological capacities. But until comparative advantage was achieved, these industries should have been uncompetitive. Anticipating a future comparative advantage does not provide a competitive advantage now. The fact that the steel industry, for one, was a major export success for the Japanese economy in the 1960s, at a time when Japan was a net capital and technology importer, leaves a question mark over our use of the concept of comparative advantage. The fact that the success of steel came in circumstances of constant government intrusion in the industry (such as MITI's insistence, described by O'Brien [1992] that plant capacity reach MES) must call into question a view of the Miracle as a free market success story. Japan and the Tigers appear regularly to violate principles of comparative advantage and free markets, and to have escaped punishment, and to have most greatly prospered precisely in the industries in which the violations were most egregious. Furthermore, as will be seen later, this also calls into question the view of East Asia as an example of EOI, since these capital-intensive industries are the hallmarks of ISI.

The next line of defence of orthodox comparative advantage is the argument that the punishment falls on the economy as a whole, regardless of the success of particular industries. This is the argument noted above, in reference to Yamamura [1977], that the cost of government interference designed to foster capital-intensive industry is a quantum shift down of the economy's potential growth rate. This view also is unconvincing, most immediately because it fails the test of Popperian falsifiability. The Japanese economy in the Miracle Period averaged an economic growth rate of 10.8%. In fact growth was accelerating in the second half of the 1960s, reaching closer to 12%, and overall in the decade GDP tripled (thus more than fulfilling the Japanese Government's Income Doubling Plan of 1960). If the period's government industry policy and other interventions were growth-reducing, then the potential growth rate must have been higher.

South Korea and Singapore achieved similar growth rates in their respective miracle periods, the Singapore rate at least comparable, the Korean 1-2% lower. An argument might be made that these growth rates were achieved in free market conditions, and therefore close to or at the potential rate. This would be difficult in the Singaporean case, given the large government role in key parts of the economy. It would be impossible in the Korean case, given the widespread recognition in the literature of its "command economy" characteristics. (Note for example Song [1986, 139] and even Woronoff [1990, 100] despite the strong emphasis from both authors on the free market characteristics of the Tiger economies). The actual growth rate of the Chinese economy, in the 1980s, was higher, at times exceeding 15% (see above, Figure 1). Arguments that this was achieved in China through the absence of an interventionist government, would be greeted with scepticism by anyone with an acquaintance with the economy either in the 1980s or now. Hence here too the potential growth rate must have been higher still, based on the view that all government intervention is inevitably growth reducing.

Thence a difficulty arises. As the Asian economies achieve double digit rates of economic growth despite the growth-sapping effects of government intrusion, so it becomes more difficult to sustain the argument that there must exist a higher free market growth rate, and this higher potential growth rate increasingly begs to be quantified. This is a relatively recent conundrum for orthodox economics. Prior to the advent of the Tigers, it could be argued that free market economies will grow slowly but satisfactorily (in Britain in the 1950s for example, at a rate unprecedented for the UK of 2% per year) whereas government-distorted economies such as the South American grow not at all. Tiger-level growth rates opened new possibilities, and a problem. Rates approaching 15% seem to be approaching some theoretical maximum, and those arguing that growth would have been still higher, if only governments had been less intrusive, should be expected to specify what that theoretical free market speed limit might be. In other words the scientific method requires that their hypothesis be testable. An assertion that government intervention *per se* prevents some unspecified higher growth rate from being achieved, violates that criterion. It risks being seen as a contrivance to avoid an alternative inductive lesson from the experience of East Asia, that government intervention seems to be compatible with, and might be conducive to, high rates of economic growth.

This arguable weakness in the free market interpretation of East Asia is pertinent to the general aim of this paper. The wider criticisms, of an excessively simple reliance on principles of comparative advantage and the like, cannot be fully explored here and are cheerfully noted by the author as a digression.

However the key point, as made previously, remains in contention. This is the anomalous weight of capital-intensive industry in East Asian development, unexpected within an EOI framework. The extreme example is the South Korean, in which a drive to capital-intensive industry was evident from the beginning of the Park regime, and in which a sectoral shift towards HCI (Heavy and Chemical Industries) is evident by the early 1970s, a scant few years after the liberalisation of the economy that arguably began the growth process. The anomaly lies particularly in the preponderance of capital-intensive goods in the economy's exports. A transition from exports of agricultural products, through to labour-intensive light goods in the second stage, and culminating in a shift to high tech and capital-intensive goods, is expected of late industrialisers and enshrined in the "flying geese" and similar models. The country's agricultural poverty precluded the first stage, but the second stage of light manufactured exports, of the bicycles and footwear type, seems to have been too brief an episode in the country's export growth, outdistanced in the race to steel, shipbuilding and complex consumer goods. For example by 1975, exports in the combined categories of Iron and steel + Machinery and Transport Equipment, at 18.4% of the total, were approaching Textiles and Footwear at 25.8%, and by 1975 had surpassed the latter with 40.3% against 21.7% of exports [Song, 1990, 104]. Drawing these statistics from Song, whose work implies a more conventional flying geese view, is done in the spirit of weighting the argument against that made in this paper. Yet these figures must remain indicative pending further examination, since as presented in Song's statistics the percentages of exports for each category sum to over 140%. The race to HCI may have been even faster than indicated.

The second anomaly in the standard EOI picture of East Asia, is the nature of the protection against imports that was imposed by the governments of the region. The fact that trade barriers were high, in for example Japan, is uncontroversial; Boltho [1975] notes Japanese trade barriers of the 1960s to have been the highest in the OECD. However, once again they are anomalous to the standard perception of EOI. Export orientation requires international price competitiveness, and this requires not only subsidy of exported output but also access to cheap inputs. Labour is accessed locally, and its low cost abundance is the basis of a labour intensive approach to industry, but machinery is accessed most cheaply from abroad. An openness to imports of it and other essential inputs seems integral to an export-oriented approach, whereas barriers to imports of capital-intensive goods bespeak an old ISI approach.

Yet trade barriers in East Asia seem more in the Australian McEwenist style of "protection all round". There is, firstly, protection of labour-intensive industries. This may appear redundant given the region's presumed comparative advantage, but can be explained as an attempt to induce cautious entrepreneurs to make the necessary initial investments, by reserving the domestic market for them. There is protection also against imports of capital-intensive machinery, components, and raw materials such as intermediate chemicals. Wade notes the reluctance in both South Korea and Taiwan for imports of such goods to be permitted, and the need for exporters to rack up substantial export credits before they were allowed access to them [Wade, 1988, 142]. Importantly, these barriers persist and are even strengthened after the 'liberalisations' so-termed of these economies, and raise doubts as to the degree and intention of those market liberalisation events. (The argument that the aforementioned growth-triggering liberalisation of trade in the Tiger economies was in fact illusory, with a maintenance or even an expansion of State controls over trade, is fully explored in Wade [1988]; furthermore that those import barriers that were retained seemed designed as much to promote the domestic capital goods industries as to protect exporters, is strongly argued [Wade, 1988, 143 *inter alia*]).

All such trade barriers are incompatible with a purely EOI approach. In the experience of this author, the idea that they were present in East Asia, is staunchly resisted by those who regard as nonsensical a species of protectionism which is either not needed by industries, given their enjoyment of comparative advantage, or which acts only to increase their costs by raising the price of imported inputs. However the strategy is compatible with what does seem inductively to have been the actual development strategy of the East Asian economies. It is a strategy which combines EOI and ISI approaches in almost equal measure, and thus helps to explain the anomalous capital-intensity of the region's domestic industry and export profile, and the apparent capriciousness of its protectionist policies. It is one which affirms South Korea and Taiwan, and before them Japan, as archetypes of successful late industrialisation, with the City Tigers as outliers. It adds the much-maligned development effort of pre-1978 China as the latest example, whatever flaws it may have had, of a longstanding pattern of East Asian industrialisation. It further implies that that post-1978 PRC is a departure from that successful model, whatever successes it may have achieved in its own terms. It is a strategy that seems not only observationally true of the region, but arguably one that was theoretically optimal or at least defensible.

3. THE PRE-1978 PATTERN OF CHINESE DEVELOPMENT

This section has multiple aims, and is at risk therefore of failing in all of them. However taken singly each intention is fairly modest, and the broad overarching concern can be simply stated. The broad concern is that the enthusiasm for the post-1978 and especially post-1992 growth record (the latter date the year of Deng Hsiao Peng's confidence-building tour of the South) has led or will lead to amnesia concerning its prior development path. The careful avoidance of the word "Mao-ist" from the section reflects the care of this author to avoid the appearance of a general approval of the pre-1978 regime, and to avoid invoking old stereotypes and battlelines. However if the first three decades after the Civil War were truly the lost decades that they are sometimes painted, then the country by 1978 would have been a Mainland version of Myanmar. That this was not the case is borne out by official and Western figures, and by the anecdotal observations of many including this writer who were acquainted with the Mainland at the time. The argument that 1978 is a Year Zero, from which a modern China has emerged, phoenix-like, is either simply wrong, or at least requires far more thorough investigation of the preceding period than most current analysis has time for. Economic development in China no more began in 1978 than did Japan's in 1945.

The argument that development was occurring, albeit at astronomical human cost, was well known in the literature of that time, even if often rejected by other contemporaries. Examples are provided below. The argument is far less prevalent today, and where it is still found in the literature it tends to be associated with names such as Riskin and Sigurdson who are already familiar from that earlier period. The shift in thinking is not surprising; the country's growth figures now are manifestly better. But a focus on the country's current growth path must not lead to denial of the economy's prior existence. It is not a cliché but a truism that the country's growth was built, for better or worse, on what had come before. Similar concerns arise in the case of South Korea and Japan, in which the collapse of the late 1990s is blamed on the very same development model previously lauded as the source of their success (and often by those who provided the strongest approbation; as is so often the case in the literature on East Asian development, an excellent example is one of the giants of the field, Anne Krueger [Krueger and Yoo, 2002]). The recent decline of East Asia's prospects has dulled memories of its past successes. However it is reasonable to argue that inductive lessons should be sought from the full range of the region's development experiences, and the drawing of artificial historical discontinuities avoided, and this is as true of the PRC as it is of South Korea and Japan.

Another aim of this section is to provide an example of that somewhat novel, simultaneous EOI-and-ISI interpretation of East Asia as recounted in Section 2. This is to be done on this occasion in its simplest form, if only to gauge to what extent certain stylised facts can be taken as read. The summary of this growth path is presented here, with the anomalies noted at the close of Section 2 fully in mind, and an attempt is made to incorporate these anomalies though by no means comprehensively.

An LDC faces the twin problems of a labour surplus and technological backwardness. These are linked, in that the abundance of cheap labour sends a strong market price signal against investment, particularly in complex new technologies requiring a large commitment to up-skilling labour. The result is a tendency to avoid investment in technological progress whenever profitable production with existing labour-extensive methods can occur, with investment in land as the old standby and safest alternative. Domestic entrepreneurs withdraw from technologically dynamic sectors in which competition with imports is fierce, moving into those industries, such as low grade textiles, in which low incomes and the absence of distribution networks provide a degree of protection for the local producer; De Cecco [1984] notes this phenomenon in the Indian textile industry in the Nineteenth Century. Market price signals thus tend to impede the diffusion of technologies through the economy. High technologies, generally easily transferred across national boundaries, remain corralled in an enclave inside it, surrounded by a vast traditional sector, with subsistence wages, and with neither the means, nor the price incentives, to adopt the technologies on offer from the enclave.

In contrast, successful late industrialisers share in common a third sector, of manufacturing industries built outside the enclave and in economic contact with the hinterland. Characteristically, these industries are created by resisting the market price signals noted above which tend to prevent such investments, and this in turn requires intervention by government. The generally labour-intensive manufacturing sector facilitates the diffusion of technologies from the enclave, and the absorption of the labour surplus from the traditional sector, ultimately creating a Lewisian Turning Point. Drawn from Arthur Lewis [1954], this is the point in the development path at which labour surpluses are absorbed, with consequent rise in wages, and to which economic maturity can be dated. The new scarcity of labour finally forces the hand of entrepreneurs to adopt advanced labour-saving technologies throughout the economy. In Japan the role is taken most prominently by the textile industries, silk and cotton. The textile factories of the Meiji Period take high technologies – quintessentially the steam engine – from the high tech enclave formed by the Meiji military arsenals, and combine them with imported textile machinery, modified domestically to increase their labour intensity. This is followed by a long process of technologies diffusing out, and labour being absorbed in, until finally – a reasonable estimate for Japan is 1970 – the labour surplus is absorbed, and market price signals can act fully in favour of technical progress. (This date for Japan is arrived at by noting three signs of absorption of a labour surplus: a rise in real wages, a shift to slow growth, and the appearance of sustained trade surpluses).

For those who see market forces alone initiating this process, Meiji Japan offers scant support. T.C. Smith, the author [1955] of still one of the most lucid descriptions of early efforts at industrialisation, identifies a period of perhaps two decades in early Meiji in which investment in new industrial technologies, in textiles and elsewhere, remained stubbornly unprofitable. Problems of unskilled labour (whose low quality was not sufficiently offset by low subsistence wages) as well as inadequate power supplies and inexperience in technical choices, reduced profitability well below the minimum for entry. Therefore as inducements for their venturing into strategic industries, entrepreneurs required large compensating subsidies from government (including guarantees of minimum rates of return on investment) which the Meiji Government was willing to provide given its twin fears of military invasion and of economic collapse from the trade deficit.

Some of the barriers to profitability, such as inadequate power infrastructure, lie in the domain of the public sector. Hence it could be argued, contrary to the above, that this is a case again of a barrier to development created by *government* failure to carry out its economic function, rather than an innate barrier within LDC markets to technological diffusion. However other barriers, such as uncertainty over the best choice of technology, remain to bedevil the private entrepreneur in even the most freedom-loving of free markets. Such uncertainties, well known to firms in all economies, will be a particularly high obstacle in an LDC, for whom all foreign technologies are more or less unfamiliar and unpredictably dangerous. Here, excessive caution, and therefore less than optimal levels of investment, is rational, given that the payoff for excessive enthusiasm is destitution for the entrepreneur's family. In terms of the diffusion of technologies in an LDC, the invisible hand is clenched in a fist (or perhaps raised in a 'stop' sign).

Such barriers may not in theory be insuperable for market forces, but the experience of the few successful examples of late industrialisation, the Fortunate Three identified above, indicates by induction a large role for government to socialise the uncertainty of investment in new technologies. South Korea, Taiwan and the PRC all provide examples of sustained government intervention, aimed at lowering the barrier of market price signals sufficiently to induce private investment.

In the pre-1978 Chinese economy, the elements involved in industrialisation include the communes, representing the traditional sector, and the SOEs (State Owned Enterprises) representing the high tech enclave. The bridging mechanism, the analogue of Japan's textile factories, was the set of small local manufacturing enterprises created alongside the communes by the rural industrialisation drive. These were particularly in the Five Basic Industries of cement, power generation, chemicals (fertilisers), machinery and ferrous metals. In the developmental process that follows rural industrialisation, there are differences in detail but a strong functional similarity with the Meiji example, indeed arguably much stronger than in the Korean case with its emphasis on vast heavy industry.

In Meiji the role of government is to alter price signals that otherwise run contrary to the diffusion of new technologies. This is the process observed also in Korea by Amsden of "getting prices wrong" [Amsden, 19, 139]. In the planned economy of the PRC the functionally analogous method is to ignore price signals altogether, so that industries are built and technologies adopted regardless of a clenched invisible hand. The policy can be compared to military strategy. That is, not quite the Prussian war-by-railway-timetable style, so much as the philosophy of the British on the Somme, take-the-hill-and-be-mildly-surprised-if-anyone-is-concerned-at-casualties.

At the extreme micro level of the individual worker, the removal of price signals is implemented by the notorious work points system, implemented from the mid-1950s. The resulting loss of incentives explains much of the sluggish productivity figures, and their resurgence when incentives are restored to agriculture after 1978. But in terms of technical progress, the general disdain for price signals allows a process of technological diffusion which they might otherwise have inhibited.

As noted earlier, the literature on the PRC of the time treated the prospects for success of this process in a not unsympathetic light [Lippit, 1977; Riskin, 1978-1; Paine, 1978; Riskin, 1978-2; Sigurdson, 1974; Sigurdson, 1975]. Again, it is the concern of this author that this literature and this process is being forgotten in the euphoria of growth since 1978. Samples of the literature reveal redeeming features not only of Maoism in the 1960s and 1970s, but also of the heavy industrialisation drive of the 1950s, and even the Great Leap Forward. Heavy industrialisation led to many of the same failures as in South America, and in the nascent Tigers in their own contemporaneous efforts. These include the concentration of scarce inputs in projects vast in scale but too small in number to affect the wider economy; resultant shortages of inputs in other sectors; and excesses of output for example of machinery. However Paine sees also many of the advantages of a strong K-intensive sector that are noted by Inkster [1980] for Meiji Japan: rapidly rising productivity in the sector, rising managerial skills, and cost advantages over the imported alternative. In a pithy summary of the advantages of a simultaneously capital- and labour-intensive path to economic development, Paine notes:

> The Chinese economy successfully effected during a remarkably short time much of the extremely difficult process of 'learning' to manufacture heavy industrial goods, and created a strong base which was modified subsequently to produce agricultural consumer goods. [Paine, 1978, 66]

Nevertheless, disillusionment with the outcomes of heavy industrialisation was sufficient to rupture China's relationship with its patron, the Soviet Union, and shift the development strategy towards self-sufficiency (in the Maoist sense of self-actualisation) and the Great Leap Forward (GLF). The failure of the latter has been loudly chorused; if a voice from the chorus needs a solo, Ishikawa provides one in deep baritone. "As is well known, the Great Leap Forward was a failure" [Ishikawa, 1973, 167]. Its importance here is that it bequeathed to the economy the rural industries that formed the bridge between high tech sector and agriculture – between the SOEs and the communes – through the 1960s and 1970s. With the upturn in the economy from 1962 the process of dismantling the myriad small enterprises of the GLF was arrested and partially reversed. In spite of past failures many enterprises survived and prospered; it was on the basis of the heritage of the Great Leap that even more feverish efforts towards rural industrialisation were undertaken during the Cultural Revolution, peaking in the early 1970s. By that time, rural industries using intermediate (as opposed to capital-intensive or handicraft) technologies contributed some 10% of total national industrial output [Riskin, 1978]. This figure must be seen in perspective, since it equalled the economy's total industrial output at the commencement of the First Five Year Plan, and involved perhaps half of the industrial labour force [Sigurdson, 1973]. In addition, rural industrial output seems to have been vital in key areas, with up to 60% of chemical fertiliser output provided by small local plants, up from 12% in 1965, and small hydropower plants providing one sixth of total hydroelectric capacity [Riskin, 1978].

A crucial difference between the successful development process of the PRC, and the failed process of post-Raj India, is the labour-saving bias enforced on rural industries [Riskin, 1978]. Just as planners learned from errors in the heavy industrialisation of the 1950s, and adjusted accordingly [Paine, 1978] so also lessons were learnt from the GLF, the supreme dictum being to avoid a crippling drain of labour from agriculture into industry. In contrast to Meiji, it was the communes that over the 1960s and 1970s absorbed at least part of China's labour surpluses, with diminishing returns offset by the technological improvements provided by rural industries. Increased labour intensity thus did not lead to a crisis of falling real incomes, which otherwise could potentially have caused a revolution against the Revolution. At the same time there is a vital process of dissemination of skills to a growing industrial workforce, and one not clumped in the coastal provinces but spread throughout the interior. This can occur incrementally, beginning with that crucial first step of technological assimilation, repair and maintenance, with a progression then through duplication, scaling down of the machinery to meet local conditions, and so on.

Thus Sigurdson notes:

> Technicians, engineers and managers from more advanced plants travel to the sites of small rural plants to assist in all stages from planning to production and distribution. At the same time, people from the localities are sent for shorter or longer training periods to advanced industrial units, and are given posts of responsibility for technical and managerial matters when they return. Furthermore, people are transferred to work more or less permanently in rural areas [Sigurdson, 1975, 535].

At the height of the Cultural Revolution the process of being transferred to work in the countryside could be traumatic, amounting to press-ganging. To the human cost must be added the economic inefficiencies (quite apart from the persistent problem of incentives). The capacity of the rural plants was low, whereas minimum efficient scale in industries such as cement is not. However Riskin notes that the gain of lower unit costs in larger urban plants is more than offset by higher transport costs, given the poor road and rail net of the time [Riskin, 1978-2]. The loss of the advantages of scale is also offset by the shortening of the gestation period of investment in small plant:

> A lower capital intensity when combined with a smaller scale leads to a shorter gestation period for investments and hence makes it possible to reinvest the surplus accruing from the investment earlier (a 'compound effect'). The amount of surplus per unit of capital investment may be smaller but the compound effect would lead to a higher rate of growth [Ishikawa, 1973, 177].

It was developmentally sound therefore that industrialisation in China be a least partly local and small scale, disseminating skills and technologies through the economy from the urban SOEs (including, as noted by Riskin [1978-2], in the form of discarded equipment) and allowing communes to fulfil their role of labour absorption. The process differs in detail but in its essence mimics the Meiji process of industrialisation: technologies are transferred and assimilated into a capital-intensive high tech enclave (steam and steel/the SOEs), diffused through a light industrial sector (textiles/the Five Basic Industries) while the labour surplus is gradually absorbed. The difference in detail lies in the last, with labour absorption occurring through the increasing labour intensity of the communes, rather than at least partly in labour-intensive light industry as in Japan. Functionally however, the process in both countries is the same.

This allows a tentative re-statement of this positive process of development in pre-1978 China. It also allows a comparison, less evident so far in the literature on China, of the functional equivalence of the process in the PRC with that found in Meiji Japan. Finally it gives also some explanation of the anomalous divergence, observable throughout East Asia, from pure EOI. As noted above, the Tigers have in common a persistence of import barriers and other means of support for the capital-intensive sector, long after their 'liberalisation' in the early to mid-60s. Thus the export-drive of EOI is added to, and exists in parallel with, a continued process of ISI. Capital-intensive industries continue to be built up alongside the new labour-intensive export industries, so successfully that in South Korea the capital-goods industries themselves by the 1980s have become the leading exporters. The capital-intensive industries are pivotal not only as surprisingly bountiful sources of export income, but also as the centre in which technologies are assimilated, and from which in modified form they will be diffused through the economy. It is this process of ISI and EOI in combination that is arguably both the actuality of East Asian industrialisation (including the PRC), and the ideal for late industrialisation, with the latter helping to absorb the labour surplus, and the former as the engine of technological progress, and perhaps even sharing with EOI the role of acquiring export income and raising aggregate demand.

4. TOWARDS FURTHER INVESTIGATION

For a decade from the mid-1980s the driving force of Chinese industrialisation was the Town and Village Enterprise (TVE), with a quadrupling of employment from 1978 to the mid-1990s to 135 million [Naughton, 2007], rising total factor productivity [Putterman, 1997], and output growth in the 1980s just short of 40% per annum [Harrold, 1992]. Much of the remarkable growth in GDP of the post-Reform period can be attributed to the TVEs as a leading sector. Yet as Putterman notes:

> Enterprises owned by townships and villages are direct descendants of those formerly owned by communes and brigades, with the initial transition in many cases being a matter of a change of name only…..It is impossible to avoid the conclusion that the policies of the intervening [pre-Reform] years helped to spawn [China's] industrial growth. [Putterman, 1997, 1640-41]

In turn, to quote Riskin as a leading representative of the pre-Reform literature:

> Many of the thriving regional industries of today had their origin in a primitive workshop established in 1958 [Riskin, 1978-2, 1298].

Chinese development since 1949 represents a continuity of process, of which output and even productivity growth cannot be the only criteria of success. Based on the archetypal East Asian development schema outlined above, the pre-Reform period has a role, including even for the much-maligned Great Leap. The key to Chinese modernisation is industrialisation, upon which a backward agriculture was a constraint. In the pre-Reform period this constraint was removed, at least in terms of agricultural output growth, albeit with lamentable figures for productivity. More pertinent, the communes were the locale for small scale industrialisation, which was the seedbed of the industrialisation spurt of the 1980s. According to the quantification of the literature by this author, Putterman is in a minority in his optimism as to the contribution of the pre-Reform economy. This paper has attempted to put the PRC into a context of wider East Asian industrialisation which helps validate this more rose-coloured view of the Maoist economy, both his and that of others such as Paine, Riskin and Sigurdson. This goes against a majority vociferous in its silence as to economic change prior to 1978, or dismissive of these changes as a blind alley or backwards leap. The danger of this is that the lessons of the pre-Reform period, including both its errors and its successes, will be lost.

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NEAR ZERO BOUND INTEREST RATE POLICY AND LIQUIDITY TRAP: A COINTEGRATION ANALYSIS OF THE DEMAND FOR MONEY IN THE UNITED STATES

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ABSTRACT

The deepening of this past recession, along with the ineffectiveness of the Fed to stimulate the economy raised concern over the possibility that the U.S. may be experiencing a liquidity trap. This study analyzed empirically the existence of a liquidity trap in the U.S. demand function by estimating the interest rate elasticity of demand for money as short-term rates were lowered continuously by the Fed toward the zero-bound. The ADF and the Phillips-Perron unit root techniques were used for testing the stationarity of the time series. The Johansen-Juselius cointegration procedure was used to determine the existence of a stable long-run equilibrium demand for real M1, and an error correction model was employed to determine the short-term adjustment towards a long-run equilibrium relationship. The empirical results show no evidence to support the hypothesis of a perfectly elastic U.S. demand function; a necessary condition to justify the existence of a liquidity trap.

Keywords: *Recession, Monetary Policy, Liquidity Trap, Aggregate Money Demand, Unit Root Testing, Cointegration Analysis, Error Correction Model*

1. INTRODUCTION

Over the past two years, the U.S. has been experiencing a recessionary economic condition, characterized by a decline in the growth rate of its gross domestic product (GDP) and a rising rate of unemployment. To stimulate the sluggish economy and energize credit market activity, the Federal Reserve undertook a standard expansionary monetary policy by lowering the federal funds target rates almost continuously from 5.25 in September 2007 to 0.15 in January 2009. However, as the federal funds rates approach near the "zero bound" any further reduction by the Fed for the purpose of stimulating the economy became a futile monetary policy. By September 2008, it became quite evident to the monetary authorities that the country is about to face one of the worst recessions since the Great Depression. The financial crisis, which began as a housing price bubble burst, while, increasing credit risks spreads and inhibiting normal flows of financing and credit extensions, contributed to the impotence of the monetary expansion policy.

To counter the effects of the financial crisis and the limits imposed by the zero bound interest rate, the Federal Open Market Committee and the Board of Governors provided additional support to the recovery by undertaking several actions and initiating new programs which increased the size and changed the composition of the Federal Reserve's balance sheet (Bernanke, 2009). Total assets rose significantly, about 59.47 percent, from $869 billion in June 6, 2007 to $2,144 billion in September 30, 2009. Short-term lending programs, which provide backstop liquidity to financial institutions such as banks, broker-dealers, and money market mutual funds, accounted for about 12.31 percent of the total assets. Moreover, the debts of government-sponsored enterprises and the emergency lending programs for financial institutions in critical conditions represented 38.43 percent and 4.71 percent of the total assets, respectively.

Many researchers held the view that the deepening of the recession, along with the declining GDP and rising unemployment would result into a deflationary risk, similar to Japan's experience in the 1990s into the 2000s. Hence, measures to combat the risk of deflation considered by the Federal Reserve include: a quantitative monetary policy (quantitative easing), the adoption of a zero interest rate policy, the use of unconventional tools advocated by Bernanke, such as buying securities at various maturities, potentially risky securities (Dargent and Ripert, 2008).

The ineffectiveness of the Federal Reserve's monetary expansion policy to stimulate the economy raised some concern over the possibility that the U.S. may be experiencing a liquidity trap. Stiglitz (2008) warned that the United States is sliding into dangerous 1930s-style liquidity trap, basing his view on the ground that long-term bond rates are not coming down on line with short-term rates. The reason behind the Fed's 75 basis point rate cut was to allow banks to replenish their balance sheet by borrowing at short-term rates and lending at longer term. Stiglitz pointed out that the mechanism of monetary policy is ineffective in working its magic, especially, in the midst of the current financial crisis, when confidence remains fragile. Krugman (2008) indicated that the U.S. is in a liquidity trap and that the most effective tool against it would be to create or increase inflation. He argued that increasing the monetary base alone won't affect the expectations of future money supplies if people believe that the monetary authority will move to stabilize the price level once the economy recovers.

Given the rare occurrence of liquidity trap in past business cycles of various national economies, the current U.S. economic and financial crisis provides the opportunity to conduct an empirical research on whether a monetary policy becomes ineffective when short-term interest rates approach near or zero. The Keynesian hypothesis postulates that, in the presence of a liquidity trap, the demand for money will be infinitely elastic when the nominal interest rate is zero or close to zero. The purpose of the paper is to: (1) develop a theoretical model of the demand for money with liquidity trap; and (2) provide empirical evidence on whether the U.S. economy experienced a liquidity trap by estimating the interest elasticity of demand for money as short-term rates approached near the zero bound. The research findings may provide lawmakers useful insights into the relationship between near or zero interest rate and liquidity trap in order to make appropriate policy decisions. The remainder of this paper is divided as followed: Section II provides a literature review on liquidity trap; Section III describes the methodological framework of money demand and data collection; Section IV reports the empirical results; and Section V presents the concluding remarks.

2. LITERATURE REVIEW

The concept of liquidity trap, a term coined by Robertson (1940), was first postulated by Keynes in his macroeconomic analysis of the U.S. economy during the Great Depression of 1930s. While, expressing his concern over the lack of necessary monetary policy to restore prosperity, Keynes (1936) recognized the practical limitations of expansionary monetary policy to a slump. He argued that, under certain market conditions, a liquidity trap may arise if market agents, believing that interest rates have reached their lowest levels, choose to increase their holdings of cash balances and sell their government bonds. However, his model, which considers the long-run interest rate as the opportunity cost of money demand, is based on the possibility of the existence of a non-zero positive interest rate floor below which any further monetary expansion will be ineffective.

Following Keynes, debates on liquidity trap among economists centered on the existence of a positive or zero interest- rate floor, and whether to consider it in terms of short-run interest rates or long-run interest rates. Boianovsky (2004) provided an overview of the theoretical development of the liquidity trap concept from Hicks to Krugman. Hicks (1937) developed a framework, the IS-LM model showing (despite its ad hoc assumption of price inflexibility) how monetary policy might be ineffective during an economic depression. Like Keynes, Hicks (1982) viewed the liquidity trap in terms of long-run interest rates, and was concerned about the existence of a positive floor to the interest rate. Both Keynes and Hicks argued that once, short-term rates fall down to zero, short-term bonds would be equivalent to money; therefore, the demand schedule for money would reflect its usefulness as an asset free of interest rate risk. The LM curve is consisting of a nearly horizontal segment representing the floor rate of interest and a nearly vertical segment reflecting the upper limit of the velocity of money. Hence, an increase in money supply along the horizontal segment of the LM curve will exert no further reduction in the rate of interest at the minimum bound. Robertson (1936) pointed out that Keynes' view in terms of the horizontal LM curve implies that the demand for money is perfectly elastic.

Though their views of Keynes' claim are apparently similar, Lange (1938) and Hicks differ in substance. Like Hicks, Lange argued that the demand for money is finitely interest-elastic, implying that the "Iso-liquidity curve is a horizontal straight line." However, unlike Hicks, Lange suggested that the perfectly elastic nature of the demand curve is due to the empirical matter of the value of the interest elasticity of demand for money rather than to the existence of a floor to the interest rate caused by near zero short-term rates. Moreover, Lange argued that Keynes' perfectly elastic money demand at the lower bound is portrayed by a completely horizontal LM curve instead of the partially horizontal Hicksian LM curve. Rather than interpreting the liquidity trap based on the behavior of speculators when the current long-term rate is below the critical rate or safe value indicated by Keynes, Hansen (1949) developed his explanation on Keynes' notion that every decline in the rate of interest decreases the "insurance premium" to offset the risk of capital loss; a view that is shared by Tobin (1958).

Most recent studies hold the view that all interest rates bound once the overnight rates (the shortest rates) are driven down to zero or near zero, at which point, any further use of monetary policy for the purpose of stimulating the economy becomes ineffective. Krugman (1998), McCallum and Nelson (1999), and Walsh (2003) postulated in their respective optimizing IS-LM models money as a medium of exchange whose short term nominal interest rate is positive only if it yields liquidity services. Otherwise, a liquidity trap could occur at a low positive short term interest rate.

Following the bubble burst of speculative housing-prices in the early 1990s, Japan underwent a long period of economic stagnation, despite the expansionary monetary policy undertaken by its central bank which lowered interest rates near the "zero bound." The Japanese economy was beleaguered by a recessionary condition, characterized by a rising unemployment, a sluggish growth, and price deflation in many asset markets and commodity markets throughout the 1990s. Several researchers (Krugman, 1998; Reifschneider and William, 2000; Jung et al., 2003; Eggerstsson and Woodford, 2003a) argued that Japan was in a liquidity trap; a situation in which monetary policy becomes ineffective because short-term interest rates are at near zero, and can't be pushed below zero. They maintained that, in Japan, the natural rate (i.e. the equilibrium real interest rate) was below zero, whereas, the real overnight call rate was above zero due primarily to expectations about deflationary. Such a gap- the spread between the actual real interest rate and the natural rate of interest- resulted into a weak aggregate demand, which, as pointed out by Iwamura et al. (2005), was attributed to a failed commitment by the Bank of Japan to have sufficient influence on the market's expectations about the future course of monetary policy. Despite the zero-interest rate and the quantitative easing policies, the Japanese economy continued to languish into deeper recession.

McKinnon (2000) also maintained that the Japanese entered in liquidity trap. However, he argued that liquidity trap has foreign exchange origins, which explains why the Bank of Japan can do little or nothing to reverse the slumping economy. While the American economy is independently determined, McKinnon indicated that the Japanese monetary policy, relative to the American policy, has been caused by persistent upward pressure in the value of the yen induced by the trade relationship between the two nations.

Studies indicating that liquidity trap never occurred in past periods include Meltzer (1963), Brunner and Meltzer (1963) and Laidler (1966) who analyzed whether the interest sensitivity of the demand for money increased during periods of very low interest rates, especially in the 1930s. Findings by Meltzer and Laidler did not support the tendency for the interest rate sensitivity of money demand to increase when interest rates declined, instead it remained unchanged overtime.
An overview of the historical record of the Federal monetary policy by Orphanides (2003) shows no evidence to support the assertion that monetary policy was ineffective and that the U.S. economy was in a liquidity trap in the 1930s. The Federal Reserve's premature decision to end its monetary expansion reversed the recovery of the economy from the Great Depression. When the Federal Reserve resumed its monetary expansion policy, the economy expanded rapidly, despite the fact that short-term nominal interest rates remained near zero. In an empirical analysis of factors that ended the Great Depression, Romer (1992) found that very little, if any, of the annual output fluctuations during the 1930s can be attributed to changes in fiscal policy. On the contrary, Romer found that changes in monetary policy, based on the growth rate of M1, or changes in estimates of ex ante real interest rates, were accounted for the output fluctuations during the 1930s, including the periods after the recession of 1937-1938.

The appearance of very low short term interest rates is not, as pointed out by Orphanides (2003), indicative of a liquidity trap. His view is supported by recent studies that found no empirical evidence indicating that Japan entered in a liquidity trap. Using a Markov regime-switching approach, Weberpals (1997) found no conclusive evidence supporting the hypothesis of liquidity trap that Japan experienced a liquidity trap. In addition, Hondroyiannis et al. (2004) found that the absolute value of the elasticity of Japanese demand for money tended to decline at lower levels of interest rates, which is contrary to the prediction of liquidity trap.

3. METHODOLOGY AND DATA COLLECTION

The liquidity preference theory postulates that at some lower range of interest rates rather than buying bonds people will hold money, thus giving rise to a liquidity trap. In other words at below a certain critical interest rate the demand for money is perfectly elastic. Therefore, injecting new money into the economy in an attempt to further reduce interest rates becomes an ineffective monetary policy exercise. The real money demand function is expressed as followed:

$$\frac{M_d}{P} = f(Y, r) \qquad (1)$$

Where, M_d represents the nominal money demand in its broad sense (e.g. M1 or M2) and P denotes the price level. On the other hand, Y and r denote the real aggregate money income, and the nominal interest rate, respectively.

As pointed out earlier, a liquidity trap may occur at or below the critical rate, which can take on, either a 0 value as implied by recent studies, or some minimum positive value as maintained by Keynes. If the critical rate is 0, a liquidity trap may occur as the nominal interest rate approaches the zero lower bound. On the other hand, if the critical rate is at some low and positive rate, a liquidity trap may occur well before the nominal interest rate approaches the zero lower bound. In both cases, once the spread narrows down to or near 0, the economy is in a liquidity trap; therefore any further increase in money supply for the purpose of stimulating growth will be ineffective because the nominal interest rate cannot be lowered further below zero. Following Weberpals, the concept of liquidity trap may be incorporated into equation (1) as followed:

$$\frac{M_{dt}}{P_t} = f(Y_t, r_t - r_t^*); \quad 0 \le r^* < r \qquad (2)$$

Where, the term $(r_t - r_t^*)$ represents the spread between the nominal interest rate (r_t) and the critical value (r_t^*) at time t. This study will be carried out empirically by specifying equation (2) in the following natural log-log functional form:

$$\log RMON_t = \beta_0 + \beta_1 \ln RINCt + \beta_2 \ln(NIR_t - NIR^*_t) + u_t \qquad (3)$$

where, NIR^*_t is the critical value, and it is considered in this study as the zero bound; whereas, NIR_t represents the short-run nominal interest rate and it may carry even near zero but positive values. Also known as the primary credit rate, the discount rate is set above the usual level of short-run market interest rates (the Federal Reserve Board, 2009). The lowest discount rate charged by the Fed during the study period was 0.08% in the first quarter of 2009. The critical rate at time t is represented by NIR^*_t. $RMON_t$ represents the real money balance, $\left(\frac{Mdt}{Pt}\right)$, in period t. As a proxy for the real national income ($RINC_t$), the nominal gross domestic product (GDP) is adjusted for inflation using the price level. The nominal money aggregate, M1, deflated using the CPI (consumer price index), proxies the real money balance ($RMON_t$).

The use of a narrow monetary aggregate such as M1 maybe, as pointed out by Weberpals (1997), more appropriate from a theoretical perspective for the use of the overnight discount rate to detect the presence of liquidity trap. However, from a policy perspective, M1 may not be probably appropriate because it tends to over-predict money demand overtime which leads to an instable long-run money demand. Goldfeld (1976) attributed this instability phenomenon to what he called "the case of the missing money."

A number of studies searched explanations for the instability of the money demand function using M1. Garcia and Park (1979) argued that the instability of the demand for money may be caused by the rapid pace of financial innovation the U.S. has been experiencing since 1974. They maintained that the inclusion of financial instruments such as overnight repurchase agreements (RPs) corporations use to lend out substantial amounts of their account balances overnight could reduce the over-prediction of money supply by demand functions. However, Judd and Scadding (1982) provided evidence which raises doubt on whether incorporating overnight RPs and other financial assets as part of the money supply measures generates stable demand functions. In contrast,

The inclusion of new variables, while resolving any potential specification problem associated with the omission problem of major determinants of money demand, can lead to a stable money demand relationship. As a measure for the interest rate, Hamburger (1979) used the dividend-price ratio, Heller and Khan (1979) used the entire structure of interest rates, and both reported obtaining a stable money demand. However, Mishkin (1983) raised some doubt on the validity of these findings. Small and Porter (1989) found that as a larger monetary aggregate M2 money demand functions performed well in the 1980s when used with the opportunity cost (the market interest rates minus an average of the interest paid on deposits and other financial instrument) of holding M2. Ragan and Trehan (1998) argued that as the growth of M2 declined in the 1990s and its velocity settled down, its use as an aggregate monetary measure for money supply raises doubt on the stability of money demand function. On the other hand, incorporating an exchange rate measure in the money demand resulted into a stable money demand for as Korea (Lee and Chung, 1996), Japan (Bahmani-Oskooee and Shabsigh, 1996), and Chile (Ewing and Payne, 1999).

The stationarity of time series is a major critical issue in the determination of a long-run equilibrium relationship among the variables involved in estimating a demand function. Although, liquidity trap is a phenomenon of short-term occurrence, detecting its presence would require establishing a long-run stable relationship between the real money demand, the real income and the nominal interest rate. Time series containing unit root, unless cointegrated, may result in spurious regression results with dubious value that are inconsistent with fundamental macroeconomic policy. Dickey and Fuller (1979) and Dckey et al. (1986) developed testing techniques for detecting time series variables with unit root properties. Hence, unit root will be tested using the Augmented Dickey-Fuller (ADF) technique which is expressed as followed:

$$\Delta Y_t = \alpha + \eta T + \beta Y_{t-1} + \sum_{i=1}^{p} \delta \Delta Y_{t-1} + \varepsilon_t \qquad (4)$$

Where, Δ is the first-difference operator, T is a linear trend, Y_t represents the relevant variable at time t, whose coefficient β is tested for a unit root, ΔY_{t-1} denotes the lagged first-differences, and ε_t is the error term. The ADF test can also be performed without a trend term by simply removing ηt from equation (6). The null hypothesis, H0: $\beta=0$, that a time series contains a unit root, is tested against the alternative hypothesis, H1: $\beta<0$. Rejection of the null hypothesis implies that a given time series is not stationary.

The ADF test is known for having a limited finite sample power (Schwert; 1986) especially with the presence of structural break. Consequently, it is biased towards the non-rejection of a unit root. In order to avoid rejecting the hypothesis when in fact it is false, an alternative unit root testing procedure, the Phillips-Perron (1988) is considered. The Phillips-Perron (PP) methodology, which also allows for serial correlation testing, is written as followed:

$$X_t = \sigma + \lambda X_{t-1} + \rho(T - N/2) + u_t \qquad (5)$$

Where, T, N, and u_t represent a trend variable, the number of observations, and the error term at time, respectively. The null hypothesis posits $\lambda=1$ for the presence of a unit root.

According to the concept of cointegration, two or more time series are cointegrated if there exists a linear combination of these variables that is stationary (Granger, 1981; Engle and Granger, 1987).
Time series exhibiting unit root properties in levels, maybe cointegrated if their first differences are stationary, i.e. integrated of order of I(1). For cointegration, the procedure developed by Johansen (1988), and Johansen and Juselius (1990) is considered. Basically, the Johansen-Juselius method is a p-dimensional vector autoregressive (VAR) model of k-th order with Gaussian errors that is expressed as followed:

$$\Delta X_t = b_0 + \Omega_1 \Delta X_{t-1} + \Omega_2 \Delta X_{t-2} + \ldots\ldots + \Omega_{k-1} X_{t-k+1} + \Pi X_{t-k} + \psi Z_t + \varepsilon_t \qquad (6)$$

Where, Δ is the first-difference lag operator, X_t is a (px1) random vector of I(1) time series variables, Z_t is a (nx1) vector of I(0) time series variables, Ω_i and ψ are (pxp) matrices of parameters, whereas, ε_t is a sequence of zero-mean p-dimensional white noise vectors, such that $\varepsilon_t \backsim N(0,\Sigma)$. Moreover, Π is a (pxp) matrix of parameters whose ranks contain information about the long-run relationships among the variables in the Vector Autoregressive model. If Π has full rank p, that is the number of variables contained in VAR model, then, all X_t variables are stationary. In contrast, if Π has a rank of zero, the model is reduced to a VAR in first-differences. The maximum likelihood procedure is used to estimate equation (5) subject to the hypothesis that Π has a reduced rank r<p which suggests the existence of r cointegrating relationships. The hypothesis posits that:

$$H(r): \Pi=\alpha\beta' \qquad (7)$$

Where, α and β are (pxr) matrices, with the former being the adjustment parameters, and the latter representing the matrix of cointegrating vectors such that $\beta' X_t$ is stationary, even though, individually X_t are in the order of I(1). The Johansen (1988) and the Johansen and Juselius (1990) cointegration procedure involves testing for a particular restriction on the coefficient matrix Π that would reflect the long-run equilibrium relationship among the variables displaying non-stationarity. It is consisting of two tests, the trace statistic and the maximal eigenvalue statistic, which provide the basis for determining the number of cointegrating relationships. The trace test (λtrace) is a likelihood ratio expressed as followed:

$$\text{trace}(r/p) = -T\sum_{i=r0+1}^{p} \ln(1-\hat{\lambda}_i) \qquad (8)$$

Where, $\hat{\lambda}_{1+p},\ldots\hat{\lambda}_p$ are the (p-r) smallest eigenvalues of the generalized eigenvalue problem. The trace tests the null hypothesis (H0) that there are at most r cointegrating vectors against the alternative hypothesis (H1) of r or more. The maximum eigenvalue statistic (λ_{max}), whose null hypothesis (H0) postulates the existence of r cointegrating vector against the alternative hypothesis (H1) of r0+1 cointegrating vectors is written as followed:

$$\lambda_{max}(r) = -T\ln(1-\hat{\lambda}_{r0+1}) \qquad (9)$$

The number of cointegrating vectors will be determined by comparing the trace and maximum eigenvalue statistics with the critical values computed by Osterwald-Lenum (1992).

The use of conintegration techniques to estimate the U.S. money demand is well-documented in the literature (Baum and Furno, 1990; Dickey et al., 1991; Hafer and Jansen, 1991; Hoffman and Rasche, 1991; Miller, 1991; McNown and Wallace, 1992; Mehra, 1992). However, very few studies, if any, used such procedures to examine the presence of liquidity trap in U.S. money demand. To ascertain the Keynesian hypothesis, evidence must show that as nominal interest rates decline toward zero, the interest elasticity of demand for money rises toward infinity; thus, resulting into a perfectly elastic demand. In other words, the interest elasticity of demand for money is inversely related to changes in nominal interest rates.

Following a cointegration, time series exhibiting a long-term equilibrium relationship may have a short-run disequilibrium. In order to establish a short-run equilibrium, the empirical analysis will follow the generalized-error correction model (GECM) by Banerjee et al. (1990), which, as De Boef (2001) pointed is a transformation of an autoregressive distributed lag expressed as followed:

$$\Delta y_t = \delta_0 + \delta_1 \Delta X_t + \delta_2 X_{t-1} + \omega (Y_{t-1} - X_{t-1}) + \eta_t \qquad (10)$$

Where, ω is the coefficient of adjustment of the correction error term, $(Y_{t-1} - X_{t-1})$, which is zero when X and Y are in equilibrium. The long-term relationship between Y and X, one to one is captured by δ_1. To break homogeneity, the term X_{t-1}, is included in the model, whose coefficient, δ_2, allows the equilibrium relationship to deviate from one-to-one.

Quarterly macroeconomic data for the1980:I to 2009:IV period collected from various sources, were used for conducting the empirical analysis. Data on monetary aggregates (M1 and M2) and on nominal interest rates were obtained from the Federal Reserve website: www.federalreserve.org. GDP and CPI data were obtained from the Bureau of Economic Analysis and the Labor Department, respectively. All data, including nominal interest rates are transformed into natural logs.

4. EMPIRICAL RESULTS

The ADF and the PP procedures outlined above were used to determine whether the time series level data used for estimating equation (3) are integrated in the order of I(0) or I(I). The coefficient of a lagged variable such as MON_{t-1} might be exactly 1, thus indicating that it has a unit root because the value of MON_t is drifting overtime as the error term fails to move towards 0 due to random shocks from one period to another. It should also be pointed out that both procedures also detect the presence of autocorrelation problems, often encountered with time series macroeconomic data. When applied to the real money variable ($RMON_t$), the ADF procedure is expressed as followed:

$$\Delta RMON_t = RMON_t - RMON_{t-1} = \alpha + \lambda T + \beta RMON_{t-1} + \beta_1 \Delta RMON_{t-1} \ldots \beta_{k-1} \Delta RMON_{t-k} + \varepsilon_t \qquad (11)$$

Where, $\beta = \rho - 1$, and k represents the number of lags chosen to ensure that ε_t is not serially correlated. A linear time trend T is included as another explanatory variable. The null hypothesis for the Dicker-Fuller test, H_0: $\beta = 0$ (i.e. $\rho = 1$) is that there is a unit root, against the alternative hypothesis H_A: $\beta < 0$. If $\beta = 0$, the ADF test does not reject the null hypothesis; therefore, a time series such as $RMON_t$ is nonstationary. Hence, upon conducting an ADF unit root test on a given time series, if the absolute value of the computed t-statistic is less than the absolute value of the Dickey-Fuller critical statistic, then, the null hypothesis is not rejected; perhaps, implying that the variable is not stationary.

Unit root test on the log levels and first differences of the ADF and the PP procedures, with trend and with no trend included, are reported in Table 1, and Table 2, respectively. Both procedures reveal that the unit root hypothesis cannot be rejected for all variables in log levels except the nominal interest rate whose estimated statistics show mixed results. The ADF test statistic with trend shows that the log level of the nominal interest rate is stationary, while, the ADF test statistic with no trend and both PP test statistics suggest otherwise. Additional ADF and PP test reveal that all of the time series, except the broader aggregate money demand M2, are stationary in their first differences, i.e. they are integrated in the order of I(1), at the 1% significance level. Unit root tests for M2 show mixed results: unlike the ADF test, the PP test shows that it is integrated in the order of I(2). Although the results from further unit root ADF tests are not reported in Tables 1, they indicate that M2 is integrated in the order of I(2).

Time series that are stationary after first differencing meet all the criteria for cointegration.

It should be pointed out that he narrow money aggregate M1 was selected over M2, the broader aggregate money, primarily, because the former is integrated in the order of I(1) under both unit test procedures. Moreover, M1 is, as indicated by Weberpals (1997), ideal for a study that is attempting to quantify the direct impact of monetary policy using the Federal funds overnight rate. In order to determine whether liquidity trap occurs at some positive minimum value, as implied by Keynes, or at the 0 value, two different critical values, 0.10 and 0.05, and both higher than 0 but less than the lowest minimum the nominal discount rate of 0.15% charged by the Fed during the study period. However, applying these two critical values made really no difference to change the outcome of the cointegration test.

TABLE 1: AUGMENTEDDICKEY-FULLER UNIT ROOT TESTS

Variable	ADF Test Statistic with Drift and Trend			ADF Test Statistic with Drift and no Trend		
	t-statistics	p-values	No. of Lags	t-statistics	p-values	No. of Lags
Levels:						
$lnRM1_t$	-2.5001	0.3279	4	-2.1526	0.2238	4
$lnRM2_t$	-1.7795	0.7146	8	-0.5785	0.9871	8
$lnRINC_t$	-2.4361	0.3606	4	-0.9898	0.7569	4
$lnNIR_t$	-43983*	0.0022	5	-1.7435	0.4088	5
First Differences:						
$FDlnRM1_t$	-3.5857**	0.0311	3	-3.5924*	0.0059	3
$FDnRM2_t$	-1.8903	0.6596	7	-1.8592	0.3515	7
$FDlnRINC_t$	-5.0197*	0.0002	3	-4.9505*	2.7785D-09	3

Note: Rejection of the null hypothesis: (*) at the 1% level; (**) at the 5% level.

TANLE 2: PHILLIPS-PERRON UNIT ROOT TEST

Variables	Phillips-Perron Z-Test with Drift and Trend			Phillips-Perron Z-Test with Drift and No Trend		
	t-statistics	p-values	No. of Lags	t-statistics	p-values	No. of Lags
Levels:						
$lnRM1_t$	-5.4040	0.7916	4	-3.2063	0.6322	4
$lnRM2_t$	-3.6758	0.9047	8	-0.3205	0.9712	8
$lnRINC_t$	-9.1589	0.4952	4	-0.4463	0.9304	4
$lnNIR_t$	-9.1102	0.4991	5	-0.3725	0.9354	5
First Differences:						
$lnRM1_t$	-74.5303*	3.0043D-07	3	-74.9371*	1.1045D-07	3
$lnRM2_t$	-91.5434*	5.0800D-09	7	-91.3700*	1.7998D-09	7
$lnRINC_t$	-86.8956*	1.5536D-07	3	-88.6107*	3.5834D-10	3

Note: Rejection of the null hypothesis: (*) at the 1% level; (**) at the 5% level.

The Johansen and Juselius multivariate cointegration methodology outlined above was used to determine whether there exists one or more linear combinations among them that is stationary. The maximum eigenvalue statistic (λ-max) and the trace statistic (λ-trace) were computed to determine the number of cointegrating vectors in the model. The results are reported in Table 3, and both statistics give evidence to the existence of two cointegrating relationships among the three variables. With a statistic of 48.4369 that exceeds the 99 percent critical value of 35.65, the λ-trace test rejects the null hypothesis of zero cointegration (r=0) against the alternative hypothesis of one cointegrating vector (r=1). Similarly, the λ-trace test also rejects the null hypothesis of r≤1 against the alternative hypothesis of r=2 with a statistic of 18.5886 that is exceeding the 95 percent critical value of 15.41. On the other hand, the λ-max test rejects the null hypothesis of zero cointegration against the alternative hypothesis of one cointegrating vector (r=1) with a calculated statistic of 29.8483 that is greater than the 99 percent critical value of 25.52. Moreover, the λ-max test also rejects the null hypothesis of r≤1 against the alternative of r=2, as its estimated statistic exceeds the 95 percent critical value of 14.07. Consequently, these trace and maximum eigenvalue results lead to the conclusion of the existence of two cointegrating vectors. This result supports many findings documenting the existence of a cointegrating relation among real M1, interest rates, and output (Poole, 1988; Lucas, 1988; Hoffman and Rasche, 1991; Stock and Watson, 1993).

TABLE 3: JOHANSEN-JUSELIUS TEST RESULTS FOR COINTEGRATION AMONG LMON$_t$, LRINC$_t$, LNIR$_t$, WITH THE MINIMUM NOMINAL DISCOUNT RATE AT 0.08%; 1980:1-2009:4

Null Hypothesis	Alternative Hypothesis	λ-trace Statistic	P-Value	Critical Value 99%	Critical Value 95%	Critical Value 90%
r=0	r=1	48.4369*	0.0013	35.65	29.68	26.79
r≤1	r=2	18.5886**	0.0432	20.04	15.41	13.33
r≥2	r=3	2.4112	0.1127	6.65	3.76	2.69
Null Hypothesis	Alternative Hypothesis	λ-max Statistic	Eigen-value	Critical Value 99%	Critical Value 95%	Critical Value 90%
r=0	r=1	29.8483*	0.2339	25.52	20.97	18.60
r≤1	r=2	16.1774**	0.1345	18.53	14.07	12.07
r≤2	r=3	2.4112	0.0213	6.65	3.76	2.69

Note: r denotes the number of cointegrating vectors. *and **indicate significance at 1% and 5% levels, respectively. Critical values were obtained from Osterwald-Lenum(1992).

The normalized cointegrating vector is reported in Table 4. Based on the literature on cointegration, each vector is normalized by setting the coefficient of money demand at 1; that is by dividing the coefficients of all variables by that of the money demand. The signs of the coefficients

TABLE 4. NORMALIZED COINTEGRATING VECTOR

Variables	Vector 1
lnRMON$_t$	1.0000
lnRINC$_t$	5.9962
lnNIRATE$_t$	-0.2186

are consistent with theory: the real aggregate money demand is positively related to real income and negatively related to the nominal interest rate. The long-run interest rate elasticity coefficient is -0.2186, which is very close to other findings documented in the literature. The slight differences among the findings from various studies are in large part due to the differences in study periods and the choice of interest rates. Hence, it can be expected a 0.22% decrease in real money balances if the rate of interest increases by 1%. Moreover, this empirical result supports the literature view that the various financial innovations did not contribute to an increase in the sensitivity overtime of money demand to changes in the interest rate. On the other hand, the estimated coefficient of real income, while elastic, is much higher than previous findings. Accordingly, the real aggregate demand for money is expected to rise by about 6% in response to a 1% increase in real income.

Since liquidity trap is a short-run phenomenon, detecting its presence in the aggregate money demand requires the estimation of short-run elasticity estimates. To determine the short-run dynamics of the cointegrating vector which establishes the long-run relationship between $\ln RMON_t$, $\ln RINC_t$ and $\ln NIRATE_t$ the generalized error correction model (10) outlined in the methodology section is specified in the following empirical form:

$$\Delta \ln RMON_t = \delta_0 + \delta_1 \Delta \ln RINC_t + \delta_2 \Delta \ln RINC_{t-1} + \omega(\ln RMON_{t-1} + \ln RINC_{t-1}) + \eta_t \quad (12)$$

The Ordinary Least Squares estimates of the parsimonious error correction model are presented in Table 5. Overall, the model appears to have performed relatively well. While, the coefficients of the relevant variables carry the correct signs, they are all statistically significant at the 1% level. The error correction term (ECT_t), which captures the speed of adjustment among the variables towards the long-run equilibrium, is also statistically significant at the 1% level; and it carries, as expected, a negative sign. Its coefficient (-0.0133) indicates that the real aggregate money demand($\Delta \ln RMON1$) responds to the previous quarter's shock deviation from the long-run equilibrium with about 1.33% of the adjustment back toward equilibrium occurring in the current quarter. However, this finding clearly indicates that the speed of adjustment to restore a long-run stable relationship is very low.

TABLE 5: STATISTICAL RESULTS OF THE GENERALIZED ERROR CORRECTION MODEL

Variables	Estimated Coefficients	Standard Error	T-Ratio	P- Value
Constant	0.2041*	0.0372	5.4856	0.000
$\Delta \ln RINC_t$	0.2505*	0.0933	2.6841	0.000
$\ln RINC_{t-1}$	-0.0539*	0.9801E-02	-5.4998	0.000
$\Delta \ln NIRATE_t$	-0.0412*	0.6754E-02	-6.1047	0.000
ECT_t	-0.0133*	0.2452E-02	-5.4056	0.000

Note: (*) statistically significant at the 1% level. Adjusted R-Square= 0.4013; SER= 0.0146; DW= 1.8933; F (zero slope) = 20.7710 (0.000); Schwarz Bayesian Criterion =-324.403

As expected, the real aggregate money demand is positively related to the real income, and negatively related to the interest rate, with their respective coefficient estimates being statistically significant at the 1% level. Since both relevant variables are expressed as changes in their natural log values, their coefficients represent short-term elasticities. Hence, the short-run elasticity coefficients for the real income and the interest rate are 0.25 and -0.04, respectively. While, these results fall within close range with previous findings (Cagan and Schwartz, 1976; Hafer and Heim, 1982), they support the general consensus in the literature that the demand for money in the U.S. is relatively insensitive to changes in real income and interest rates in the short-run. Based on the empirical results, this study convincingly found no evidence supporting the existence of a liquidity trap in the U.S. money demand. The short-run and the long-run coefficients of interest elasticity of demand for real money M1 are both inelastic, thus, providing a support to the view that the sensitivity of real money demand did not increase over time along with the growing number of financial innovations and money substitutes. According to the theory of liquidity trap, the demand for money is perfectly elastic at the lower or near-zero bound interest rate; and, it is portrayed either as a partially horizontal Hicksian LM curve or as a completely horizontal LM curve as suggested by Lange (1938) and Robertson (1936). Both estimates of interest rate elasticity of real money demand are near zero, despite the fact that the rates continued to decline almost steadily from 13.2% to 0.15% during the 1980:I – 2009:IV study period; perhaps, implying that the money demand function tended to be rather vertical than horizontal.

5. SUMMARY AND CONCLUDING REMARKS

In 2008, when the U.S. economy began showing signs of sluggishness, the Federal Reserve undertook a monetary expansion policy which was essentially characterized by a series of reductions of the interest rate, driving it near the zero bound and a host of short-term lending programs which provided backstop liquidity to financial institutions. However, the ineffectiveness of the Fed's monetary policy to stimulate the economy and keep it from sliding down further into a recession raised concern over the possibility that the U.S. may be experiencing a liquidity trap. As Krugman (1998) pointed out, a liquidity trapp is defined as a situation in which monetary policy becomes ineffective because short-run interest rates are at near-zero and can't be pushed below zero.

This study analyzed empirically the existence of a liquidity trap in the U.S. economy by estimating the interest rate elasticity of demand for money as short-term rates approached near the zero bound. Its findings may provide useful insights into the nature of the relationship between the demand for money and the interest rate as the later approaches the zero bound. Hence, a demand function was developed, postulating the relationship between the real aggregate demand and its basic determinants, namely, the real income or output and the nominal interest rate. Although, liquidity trap is a short-term occurrence, detecting its presence requires a stable long-run equilibrium relationship among these variables; otherwise, the regression results would be inconsistent with the conduct of macroeconomic monetary policies.

For stationarity, a unit root test was conducted using the ADF and Phillips-Perron techniques; and the results indicated that all time series (except M2) are integrated in the order of I(1). Moreover, the Johansen and Juselius cointegration procedure was used to determine the stability of the real demand for M1. Cointegration results revealed the existence of a stable long-run equilibrium demand for real M1, which in turn, called for an error correction model testing to determine the short-run adjustment needed towards restoring a long-run stable relationship. Based on the empirical results from the normalized cointegrating vectors and the error correction model, both the long-run and the short-run elasticity coefficients are, not only very low in absolute value, but also smaller than most findings documented in the literature from previous studies that used samples from prior decades. The interest rate elasticity of demand for real M1 has remained very small despite the declining trend of interest rates throughout the study period. There is no evidence to support the hypothesis of a perfectly elastic demand function; which is a necessary condition to justify the existence of a liquidity trap. Consequently, it is the conclusion of this study that the U.S. economy did not experience the problem of liquidity trap whose presence would have rendered the Fed's expansionary monetary actions impotent.

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THE EFFECT OF THE RMB EXCHANGE RATE FLUCTUATION ON CHINA's FOREIGN TRADE: AN RESEARCH BASED ON DYNAMIC BAYESIAN NETWORK APPROACH

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ABSTRACT

There are many controversies about China's exchange rate and substantive trade surplus. Using monthly data of China's foreign trade and through Dynamic Bayesian Network (DBN) Approach, this article has studied the relationships among RMB real effective exchange rate, real economic variables and China's export and import commodities based on Standard of International Trade Classification (SITC). There are some differences between this article's research and the previous research based on totality point of view. The conclusion is that approximately 2/3 fluctuations of various China's export and import commodities can be explained by demand and exchange rate variables, of which the demand is the main factor.

Key words: *RMB exchange rate, China's foreign trade, Dynamic Bayesian Network, Standard of International Trade Classification*

1. INTRODUCTION

The effect of exchange rate fluctuation on foreign trade has always been a hot topic in international economics. Although China has changed the exchange rate system in 2005 and from that time on the renminbi(RMB) has appreciated more than 21 percent, the amount of China's trade surplus has made a record of 295.5 billion dollars in 2008, which is about 6.8 percent of the GDP. China's exchange rate adjusting and the persistent increasing of surplus have attracted many economists' attention.

There are many existing studies that discuss the relationship between the changes of RMB's exchange rate and foreign trade (Ahmed, 2009; Cheung, Chinn and Fujii,2008; Thorbecke and Smith,2008). But there are also many controversies. Most of the literatures have researched the relationship between fluctuations of exchange rate and export and import commodities, or analyzed the pass-through effects of the exchange rate fluctuation on the price of the commodities (Engel, 2005;Bussiere and Peltonen,2008). At the same time, attentions have been paid to RMB exchange rate by many empirical papers which adopted time series methods, such as co-integration, error correction model and panel data(Thorbecke and Smith,2008; McKinnon and Schnabl,2009).

This paper takes a different method, the Bayesian Network method. On the knowledge of the author, there are not other researchers have studied this problem using this method. Bayesian Networks are a kind of graphic modes which describe the interdependence between random variables. They have been used to deal with uncertainty problems. Dynamic Bayesian Network(DBN) are the extensions of Bayesian Networks based on time series. They can combine dynamic information and static information under the same probability framework and conduct dynamic analysis, prediction and control by reasoning (Wang et al., 2008). DBN can do research on the dynamic relationships among economic variables qualitatively and quantitatively. Based on SITC and using DBN approach, this article will do some research on the relationships between the RMB real effective exchange rate fluctuation and China's export and import commodities. Our analysis is based on the demand side, which means that when we analyze the export of China, we will take the foreign demand and the fluctuations of RMB exchange rate into account; when we analyze China's import, we will take China's demand and the fluctuations of RMB exchange rate into account.

The paper contributes the literature in two important ways. First, we use monthly and categorized data to research the relationship between exchange rate change and foreign trade. Second, we introduce a new method to the empirical method in economic research. This article is organized as follows: section 2 reviews the literatures which have analyzed the relationships of exchange rate and export and import commodities. Section 3 introduces our data resources and elaborates our model. Section 4 presents the results of our empirical research. Section 5 concludes with a brief review of the main results.

2. LITERATURE REVIEW

The price and income elasticity of export and import commodities have always been hot topics in international economic research. International trade equation has been a classic equation in empirical research. Goldstein and Khan (1985) made a summary of previous research. A plethora of studies have been conducted to examine the effects of exchange rate changes on foreign trade. Bayoumi (1999) pointed out that in standard international trade equations, those factors which affect a country's export are the income level of import countries and the price level of those countries. Cerra and Dayal-Gulati (1999) had analyzed China's international trade changes, especially the price elasticity of export and import commodities.

Some researchers have evaluated the effects of currency devaluation on import and export commodities. Ostry and Rose (1992) had found that the real devaluation of exchange rate had no effect on international trade surplus. However, Reinhart (1995) got the opposite conclusions. By selecting larger samples and using non-stationary time series method, Senhadji and Montenegro (1998) had done research on import demand elasticity, and concluded that devaluation can improve the trade balance. Baek et al.(2009) found that the exchange rate played a crucial role in determining the short- and long-run behavior of U.S. agricultural trade.

There are also some researchers have done some studies on China. Cheung, Chinn, and Fujii (2007) found that China's multilateral trade flows respond to exchange rate, but the relationship is not always precisely estimated. Thorbecke and Zhang (2009) found that an appreciation of the RMB would substantially reduce China's exports of clothing, furniture and footwear. McKinnon and Schnabl (2009) argued that both American and China's economists mistakenly attribute the surpluses to an undervalued RMB, and a higher RMB would not reduce China's trade surplus.

As an important topic in international economic researches, there are also many China's researchers have investigated the relationship between China's foreign trade and exchange rate. Huang and Zhang (2007) had analyzed the trade relationships between China and five currency areas using the panel data method, their targets was the effects that the change of bilateral exchange rate on the country structure of China's foreign trade. Jiang and Li(2010) examined the relationship between the exchange rate of RMB and the Sino-U.S. bilateral trade, and analyzed the related variables' impact on the Sin0-U.S. bilateral trade. They found that the appreciation of RMB has positive influence on the Sino-U.S. trade balance.

Some other Chinese researchers believed that the relationship between exchange rate and foreign trade is non-linear or approximate linear. Qian et al.(2010) have used radical basic function neural network method predict RMB exchange rate, their prediction experiment had been proved better than traditional method. Ding and Chen(2010) argument that if the fluctuation of real exchange rate was actually a non-linear process and was assumed a linear process, the standard unit root test which was used for putting the theory of purchasing power parity to the proof was usually ineffective.

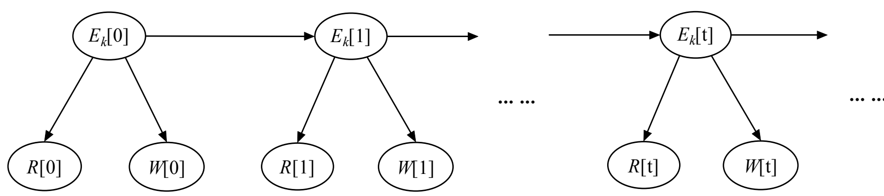
Those conclusions are differed, however, they all indicate that the change of exchange rate will affect the export and import commodity price, and will affect the export and import of a country. We argue that it is difficult to discern the effect of exchange rate on various kinds of commodities if the research is based on totality. In other words, the effect of exchange rate on various kinds of commodities should be different. We have adopted a new method called DBN to analyze the effects. Our research had adopted a new way to investigate this kind of problems.

3. DATA RESOURCES AND MODEL DESCRIPTION

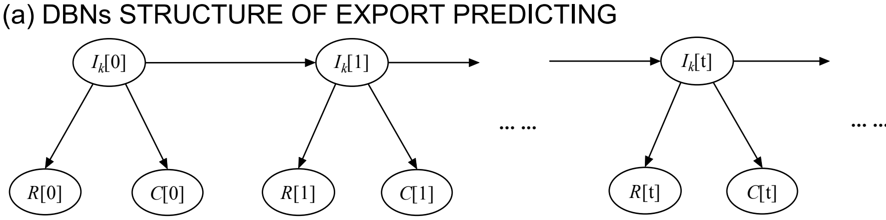
According to the imperfect substitutes model of Goldstein and Khan (1985), We choose domestic real output, world real output, and RMB real effective exchange rate as the factors that affect the export and import of every kinds of commodities. The output variables stand for the total demand level of China and the world. Because of the availability of the data, we have chosen the monthly data from January 1995 to December 2007. Exactly, China's monthly total output of manufacturing goods stands for China's monthly output, the monthly total output of manufacturing goods in main industrialized countries stands for the world monthly output. All the data have been adjusted into real output by using monthly CPI adjustment, and have been changed into logarithm series, the basis of which is 100 in January 1995. All the import and export commodities in China have been classified according to SITC, all the data from China's Economic Network Database have been changed into logarithm series with the basis of 100 in January 1995, and have been seasonally adjusted. We use Ii and Ei represent import commodities and export commodities respectively, i represents each kind of SITC commodities (we have not take the last kind of commodities into account). In our research, SITC1 is food and the animals which are for food; SITC2 is drinking and cigarettes; SITC3 is material not for food; SITC4 is fossil fuel, lubricating oil and related material; SITC5 is animal fat, vegetable fat and wax; SITC6 is Chemicals and related product; SITC7 is textiles and other light industrial products, rubber goods, mining and metallurgy products; SITC8 is machinery and transport equipments; SITC9 is miscellaneous manufactured articles. The data of monthly output of manufacturing goods and RMB real effective exchange rate index come from IFS (International Financial Statistics) database.

We discretized the export and import data of 9 kinds of commodities. Predicting the export and import using RMB exchange rate, world demand and domestic demand based on DBN model. The model can describe the influence extent by the predicting accuracy.

We use R, W and C denote the exchange rate change, world demand and China's domestic demand respectively, $E_k (1 \le k \le 9)$ denotes the export change, $I_k (1 \le k \le 9)$ denotes the import change. We can get DBN structure as follows:



(a) DBNs STRUCTURE OF EXPORT PREDICTING



(b) DBNs STRUCTURE OF IMPORT PREDICTING

Fig.1: DBN STRUCTURES PREDICTING EXPORT AND IMPORT

The form of representation of predicting are:

$$\underset{E_k[t](E_k[t-1],R[t],W[t])}{\arg\max} \{p(E_k[t-1])p(E_k[t] \mid E_k[t-1])p(R[t] \mid E_k[t])p(W[t] \mid E_k[t])\} \text{ and}$$

$$\underset{I_k[t](I_k[t-1],R[t],C[t])}{\arg\max} \{p(I_k[t-1])p(I_k[t] \mid I_k[t-1])p(R[t] \mid I_k[t])p(C[t] \mid I_k[t])\}。$$

4. RESULTS

Selecting the data from 1995 to 2007 and using all the time series data before the predicting data, we can predict the value of the predicting data. We select January 2003 as the first predicting data. By comparing the predicting data with the real value, we can calculate the accuracy of the predicting, and can describe the affecting extent of the exchange rate and the demand. The predicting results of export commodities are indexed by E1-E9. The predicting results of import commodities are indexed by I1-I9. Because we have used the dynamics analysis process, we have included all the predicting results of different lag term.

TABLE 1: THE PREDICTING ACCURACY OF EXPORT WITH TIME

SITC	E1	E2	E3	E4	E5	E6	E7	E8	E9
PA(R,W)	0.8933	0.5866	0.6800	0.6933	0.7200	0.9066	0.8800	0.8933	0.8666
PA(R)	0.8666	0.5066	0.6800	0.6533	0.6933	0.8800	0.8800	0.8933	0.8533
PA(W)	0.8933	0.5466	0.7066	0.6666	0.6933	0.9066	0.8933	0.8800	0.8666
Time Series	0.8266	0.5066	0.4933	0.5866	0.7866	0.9333	0.8666	0.9200	0.8800

TABLE 2: THE PREDICTING ACCURACY OF EXPORT WITHOUT TIME

SITC	E1	E2	E3	E4	E5	E6	E7	E8	E9
PA(R,W)	0.7600	0.5066	0.7066	0.6800	0.6800	0.8666	0.8266	0.8400	0.8666
PA(R)	0.6400	0.4933	0.5200	0.4800	0.3066	0.5066	0.5066	0.5733	0.6533
PA(W)	0.7333	0.3333	0.7600	0.6666	0.6666	0.8933	0.8800	0.8533	0.7333

TABLE 3: THE PREDICTING ACCURACY OF IMPORT WITH TIME

SITC	I1	I2	I3	I4	I5	I6	I7	I8	I9
PA(R,C)	0.6266	0.4800	0.8400	0.8133	0.8133	0.8400	0.7866	0.8666	0.8400
PA(R)	0.5733	0.4533	0.8400	0.8133	0.8133	0.8400	0.7733	0.8666	0.8400
PA(C)	0.5866	0.4400	0.8400	0.8133	0.8000	0.8400	0.7733	0.9066	0.8400
Time Series	0.6266	0.3600	0.7733	0.7466	0.7333	0.7600	0.8000	0.7733	0.6133

TABLE 3: THE PREDICTING ACCURACY OF IMPORT WITHOUT TIME

SITC	I1	I2	I3	I4	I5	I6	I7	I8	I9
PA(R,C)	0.3866	0.5200	0.8133	0.8533	0.7200	0.8533	0.8133	0.8133	0.8666
PA(R)	0.3200	0.5333	0.5200	0.5200	0.5466	0.5066	0.4933	0.5466	0.6266
PA(C)	0.4266	0.4400	0.8000	0.8933	0.6266	0.7066	0.6666	0.7200	0.8800

From the results of our predicting, we can find that the predicting results' accuracy with time factor is higher than that of without time factor. It can be explained that the export and import is time dependent. The export predicting results of SITC1, SITC6, SITC7, SITC9, and SITC9 are higher; it indicates that those kinds of commodities are more vulnerable to exchange rate and the world demand. Comparing the results of single factor affecting the predicting results with that of two factors, the accuracy of most of predicting results from the former one is less accurate than that of the latter. Comparing the results of exchange rate affecting the predicting results with that of world demand, the accuracy of the results with world demand is higher than that of exchange rate. It indicates that China's export is more vulnerable to world demand than exchange rate. According to the predicting results, we can say that our model is suitable.

The accuracy of predicting results with one single factor of SITC2, SITC3, SITC4, and SITC5 is higher than that of two factors, especially when we predict the series only using world demand.

From export, we can see that the combination effect can be queued up as SITC6, SITC9, SITC8, SITC7, SITC1, SITC3, SITC4, SITC5, and SITC2 in descending order. Average affecting extent is 66.41%. It indicates that there are some other factors that also affect China's export. World demand effect on the export of every kind of commodities is higher than that of exchange rate. Average higher extent is 24.6%. It indicates that the world demand effect on China's export is higher.

The accuracy of predicting results of China's import is lower than that of export. However, we can generalize that the predicting accuracy with time is higher than that of without time. It indicates that China's import is time dependent. The predicting accuracy of SITC3, SITC4, SITC5, SITC6, SITC8, and SITC9 is higher than that of other commodities. It indicates that China's import of those kinds of commodities is more vulnerable to exchange rate and domestic demand.

The combined effect of exchange rate and domestic demand on China's import can be queued up as SITC9, SITC4, SITC6, SITC3, SITC7, SITC8, SITC5, SITC2, and SITC1 in descending order. Average affecting extent is 65.02%. It indicates that there are some other factors affecting import.

5. CONCLUSION

This article has applied DBN approach in analysing the relationship among RMB real effective exchange rate, real economic variables and China's export and import commodities based on monthly data. We can conclude that, in view of export, many kinds of SITC commodities are affected by exchange rate and world demand, because the predicting accuracy of our model is higher enough to show this. Among the 9 kinds of commodities, the predicting accuracy of 5 kinds of commodities is as high as 90%, of 3 kinds' predicting accuracy is as high as 70%, just of 1 kind's lower than 60%. Furthermore, we can also conclude that China's exports are more vulnerable to the world demand than exchange rate, which indicates that RMB appreciation will have less effect on decrease China's export. Our results also show that China's imports are more vulnerable to domestic demand, because that the predicting accuracy of domestic demand is higher than that of two factors. Our research indicates that the DBNs method can competently used in economic research. Another important result is that the effects of exchange rate change on categorized commodities foreign trade are different. The categorized research can portray the relationship more efficient.

ACKNOWLEDGMENTS:

We thank the financial support of Leading Academic Discipline Project of Shanghai Municipal Education Commission (J51702), National Nature Science Foundation of China (No.60675036), Shanghai Planning Office of Philosophy and Social Science (2008EJB003), and Innovation Program of Shanghai Municipal Education Commission (09zz202).The authors wish to thank professor Deng Ping for carefully commenting on previous versions of this paper.

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AN AUTOMATED TRADING METHOD BASED ON WAVELET TRANSFORM

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ABSTRACT

In the recent years, a substantial volume of trading has been based on decisions supported by numerical algorithms and, in many cases, in an automated way, with orders generated directly by computer programs. In terms of the electronic financial markets, these numerical algorithms are designed to provide decision support in terms of timing to buy or sell, evaluation of the right price and even quantity of stocks. The softbots incorporating such decision making capability are designed to operate with reduced human intervention. In this work, an automated trading method is proposed with basis on an index proposed previously by the authors that can be used to forecast imminent changes in the prices using wavelet transform. The time-scale pattern obtained by the wavelet transform is used to generate indexes that indicate the condition of the market in terms of beeing or not favorable for transactions. A decision rule is then conceived to take advantage of the indexes to yield recommendations to sell or to buy. The developed decision support system was applied to options of Brazilian firms. Some statistical data are presented to show the efficiency of the proposed system.

Keywords: *Algorithmic Trading, Robot Trading, Forecasting, Stock markets, Wavelets, Indicators*

1. INTRODUCTION

The advent of automated decision support systems with orders generated directly by computer programs has brought, in the recent years, more agility in the transactions in stock, currency and commodities markets. However, if in one hand the investor has, nowadays, faster business speed, there is also a greater risk of catastrophic mistakes by choosing an unfavorable strategy. As the orders are sent in a speedy manner, the investors need efficient numerical algorithms, eventually in real time, to support or automate the decision making process to buy or sell a share.

Moreover, a crucial problem to be considered is the variability of the markets' behaviour due to factors such as fresh news, government decisions, political decisions, perspectives of crises or terrorist attacks. Hence, a perfect method to aid decisions in the financial market is unattainable, but the available informations can be processed to generate useful indications of the market's movement. The idea in this work is to take advantage of indicators presented previously (Caetano & Yoneyama, 2007, 2009) to propose a decision support system. These indicators were based on the wavelet decomposition technique to detect the dominance of certain frequency components in the time series using historical data and calculate a simple indicator, consisting of real numbers between 0 and 1, which tends to reflect the imminence of changes in the prices. These indexes complement the informations provided by traditional mathematical models such as ARCH and GARCH and related works are, for instance, Gençay (Gençay *et al*., 2001) that uses multi-scaling technique based on wavelets to find possible seasonality during intraday business and Karuppiah (Karuppiah and Los,1997) that uses wavelet to analize and indentify high-frequency components in the Asian market. The idea of onset of high frequency components in the time-series representing prices, reflecting stresses in the market, was proposed by (Sornette *et al*., 1996, 1997, 1998), inspired by analogy to sysmic models.

2. AN INDEX THAT ANTICIPATES CHANGES IN THE MARKET

The movement of prices in the stock market are widely studied in the literature such as for instance, Chen (Chen, 1996) that discusses whether the movement of prices can be modeled using random-walk or color-chaos concepts. Specific studies on intraday models can be found, for instance, in Bollerslev (Bollerslev *et al*, 2000). Bischi (Bischi and Valori, 2000) present a discrete nonlinear mathematical model to represent the dynamics of the stock market. In the last years are frequent techniques using artificial intelligence tools such as neural nets and fuzzy logic (Gradojevick *et al,* 2002). Abrupt variations are also treated in (Johansen, 2003; Johansen and Sornette, 2001). An interesting book on market crash is (Sornette, 2003).

In this work, the idea is to use the wavelet decomposition technique to provide simultaneous information on the frequency (scale) and localization in time (translation), so that chirp like signals. More specifically, oscillating components with long and short periods, at any given instant of time, can be represented in a scales $\times$ time chart, where values of the components can be represented by shades of grey. In this way, the shades form patters that dislocates in time, so that one can be alerted of the possibility of an abrupt change in the stock prices.

Orthonormal wavelets can be used as a basis to represent a function in an expanded form, in a procedure that is analogous to that of expressing a periodic function as sums of sines and cosines with appropriate weights or coefficients. The functions in a family ψ of wavelets can be obtained by scaling and translating a single function φ, called mother wavelet (see Daubechies, 1992; Meyer, 1993). In general, the mother wavelet is a function in $L^1(R) \cap L^2(R)$, satisfying the so called *admissibility conditions*:

$$\int \frac{|\hat{\psi}(\omega)|^2}{|\omega|} d\omega < \infty \tag{1}$$

where $\hat{\psi}$ stands for the Fourier Transform of ψ.

Hence, if the function φ is a mother wavelet, then a family ψ can be constructed using scaling $a \neq 0$ and translations b

$$\psi \overset{\Delta}{=} \left\{ \varphi^{a,b}(.) \in L^2(R);\ \varphi^{a,b}(t) = |a|^{-1/2} \varphi\left(\frac{t-b}{a}\right), a \in R, b \in R \right\} \ . \tag{2}$$

When $b = 0$, then the parameter 'a' simply stretches or shrinks the waveform in the direction of the t-axis. On the other hand, when $a = 1$, b simply moves the waveform along the t axis. In the literature, a is referred as the scale parameter and b is the position parameter.

Under adequate hypothesis ψ constitutes a basis for $L^2(R)$ and the wavelet transform is obtained as the inner product of the function to be expanded, $f \in L^2(R)$, with $\varphi^{a,b} \in \psi$, for each a and b:

$$W_f(a,b) = \int_{-\infty}^{\infty} f(t) \varphi^{a,b}(t) dt \tag{3}$$

In other words, given $W_f(a,b)$, f can be recovered by the formula

$$f(t) = \frac{1}{C} \int_{-\infty}^{\infty} \int_{-\infty}^{\infty} W_f(a,b)\, \varphi^{a,b}(t) dt \tag{4}$$

where the constant C depends on the mother wavelet:

$$C = \int_{-\infty}^{\infty} \frac{|\hat{\varphi}(\omega)|^2}{|\omega|} d\omega \tag{5}$$

Among many possibilities for the choice of the mother wavelet $\varphi(.)$, the Mexican Hat Wavelet function from *MATLAB 7.0* © was adopted in this work. The general behavior of the wavelets coefficients are independent of the particular choice of the mother wavelet in the sense that the smaller scales become prevalent in the imminence of drawdown.

In Caetano & Yoneyama (2007) the occurrences of drawdowns were successfully detected using the wavelet transform, based on a visual analysis of a graph with the wavelet coefficients represented by shades of grey varying from black to white, for each pair (time, scale) of points, thus forming a pattern ("tornado"). For instance, in case of daily data of financial crisis 1929 for Dow Jones (figure 1), this shaped pattern is in figure 2 with the presence of high-frequency signals. For some background literature on the 1929 crisis, one can suggest (Brunner *et al*, 1968), (Burgess *et al*, 1930), (Rappoport and White, 1993,1994), (White, 1990) and (Edie *et al*, 1930), among others.

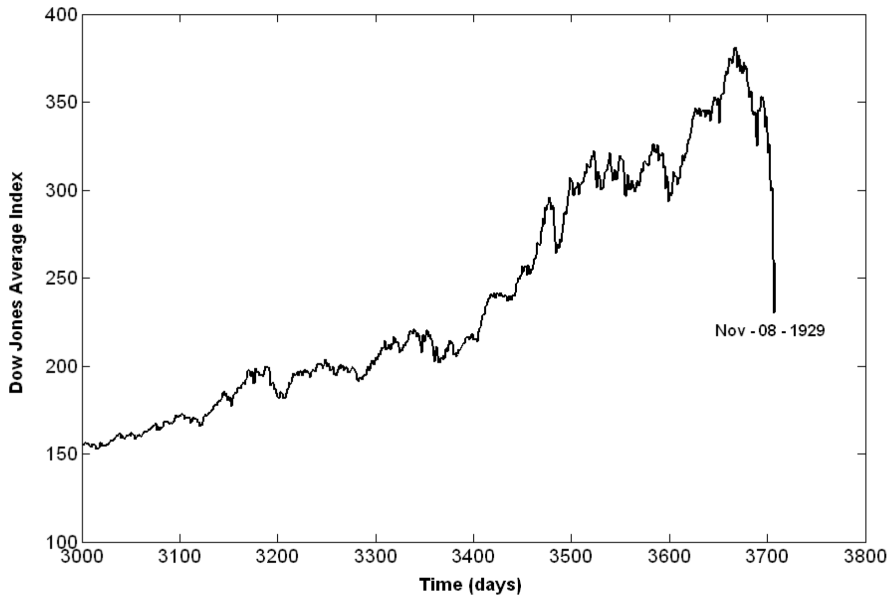

Figure-1 Dow Jones Average (DJA) index showing the crash of 1929

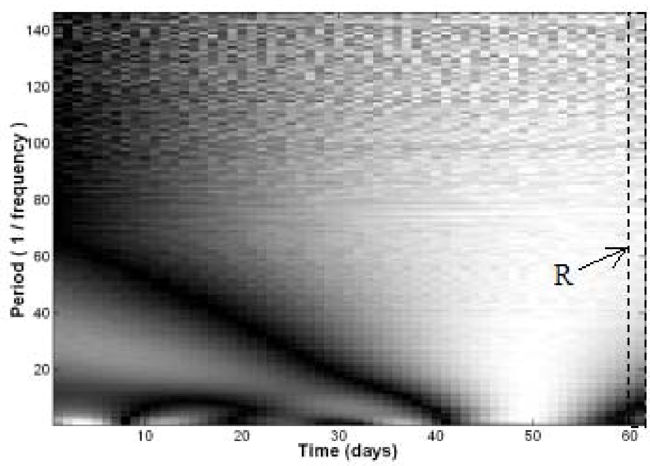

Figure-2 Wavelet decomposition for DJA pre-crash data of 1929. The shades of grey represent the magnitude of the wavelet coefficients. The ordinate axis refers to period or scale parameter and the abscissa to the position parameters (in this case, time). One can see the "tornado" shape in formation.

2.1 SELL INDICATOR

Because it is not an intuitive task for a person not acquainted with signal processing tools to interpret the shades of grey as shown in the graph of figure 2, the authors proposed, in a previous work (Caetano and Yoneyama, 2009), indices that vary between 0 and 1. The sell indicator is one of such indices and is determined by counting the numbers of positive coefficients with values that are greater than a convenient threshold and that lie inside of a rectangular region of the graph (denoted R to the right of figure 2 with a small time range). If N is the total number of coefficients of the wavelet decomposition lying in the rectangular strip and $n(t)$ is the number of positive coefficients greater than the adopted threshold lying in the same rectangular strip, then the index ζ at time t is given by

$$\zeta(t) = \frac{n(t)}{N} \tag{6}$$

For instance, in case of IBOVESPA (Brazilian Stock Index) intraday-15 min, a convenient threshold (determined by analyzing past historical data) is 2000 and for options is 0.2. The evolution of the index (sell indicator) can be seen in figure 3;

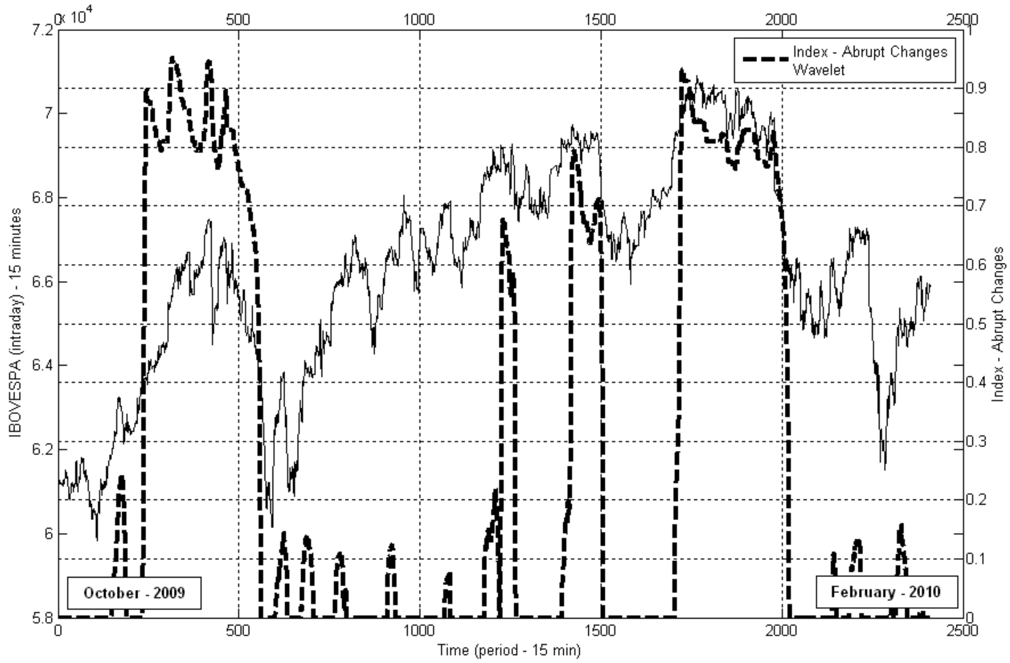

Figure-3: IBOVESPA Index (left axis) and the proposed index (Wavelet Index in the right axis) with dot-line.

As an application of the proposed index to other type of time series, consider options offered by the biggest two Brazilian firms, namely PETROBRAS and VALE. The figure 4 shows the data for option VALEB42 of "Vale do Rio Doce" and figure 5 shows the data for option PETRL40 of "Petrobras". Inspection of these graphs shows the good performance of the method in terms of anticipation of the abrupt changes of prices, i.e., when the index approaches one (right side y-axis) the prices change the trend and begin to fall.

Table-1 Statistics of Alarms for Ibovespa- Intraday – 15 minutes

Days of Observation – Ibovespa (intraday)	**223**
Alarm Signals	**22**
True alarms	**15 (69%)**
False alarms	**7 (31%)**
Average - down	**-2.42%**
Maximum - down	**-6.6%**
Minimum - down	**-0.08%**
Average – False Alarms	**+1.46%**
Maximum – False Alarms	**+2.3%**
Minimum – False Alarms	**+0.2%**
Average Time to minimum value	**2.97 days**
Maximum Time to reach minimum value	**7.4 days**
Minimum Time to reach minimum value	**30 minutes**

The Table-1 presents the statistics for alarms indicated by the wavelet index with data from Ibovespa acquired each 15 minutes during 223 days. The total number of data is 2805 with 22 alarms signals emitted during this period. It is possible to notice that 68% are true positives against 31% false alarms. One important data is the expected waiting time until the end of the fall (2.97 days).

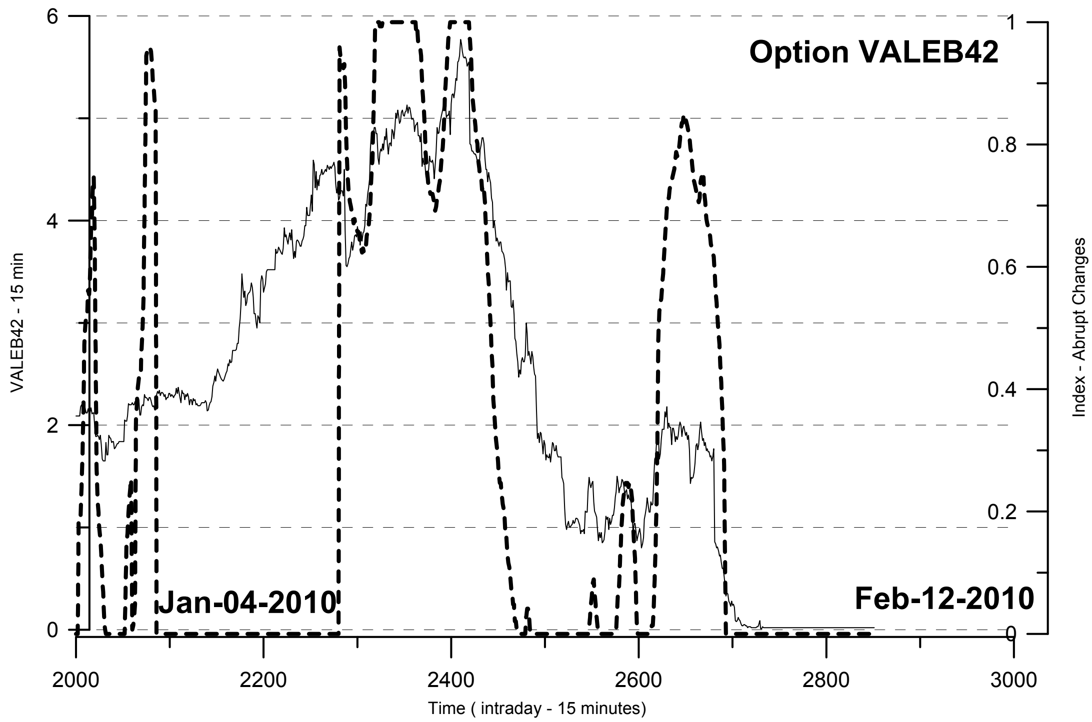

Figure-4: VALEB42 options (left axis) and the proposed index (right axis) in dotted-line.

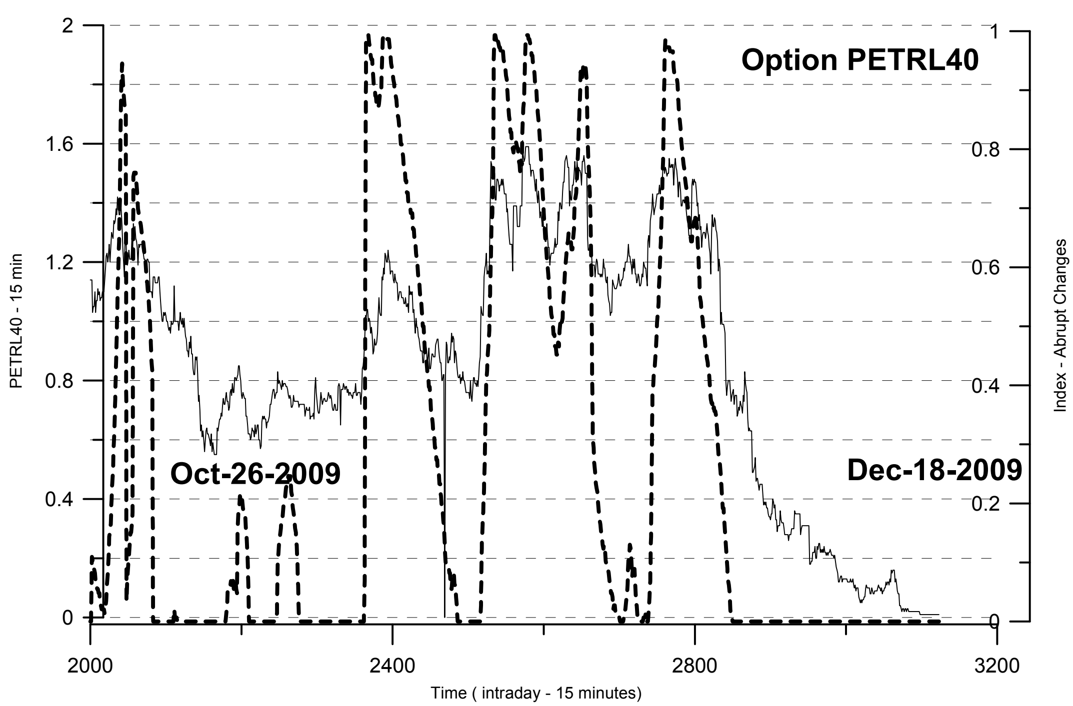

Figure-5: PETRL40 options (left axis) and the proposed index (right axis) in dotted-line.

2.2 PURCHASE INDICATOR

The idea is the same as the one shown in the previous section, except the fact that the coefficients of the wavelet transform to be considered must now have negative signal. For the IBOVESPA time series a convenient threshold is – 2000 and for options – 0.2. The IBOVESPA data was gathered for two months starting on January-2009 with time intervals of 15 min and figure 6 summarizes the results. The lefthad axis refers to IBOVESPA and the right hand axis to the values of the sell-index (full line) or buy-index (dotted-line). It is possible to note that when the sell-index is greater than 0.8 the trend tends to reverse the movement. The same condition occurs with buy-index, i.e., when the index is greater than 0.8, it signals that the moment is favorable for purchase.

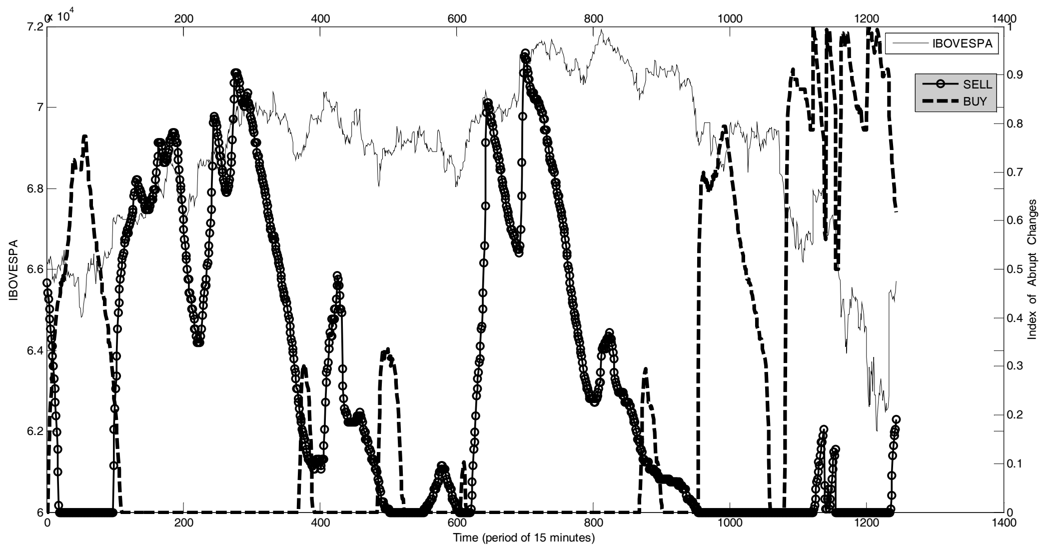

Figure-6: IBOVESPA (left axis) and the two proposed indexes (right axis) in full line and dot-line.

The figure 7 shows the performance of proposed index for option PETROBRAS (PETRD36) with maturity in April-2010. The right hand side axis refers to the buy-index or the sell-index. Again, the figure shows a good time to buy (buy-index greater than 0.8) and to sell (sell-index was greater than 0.8).

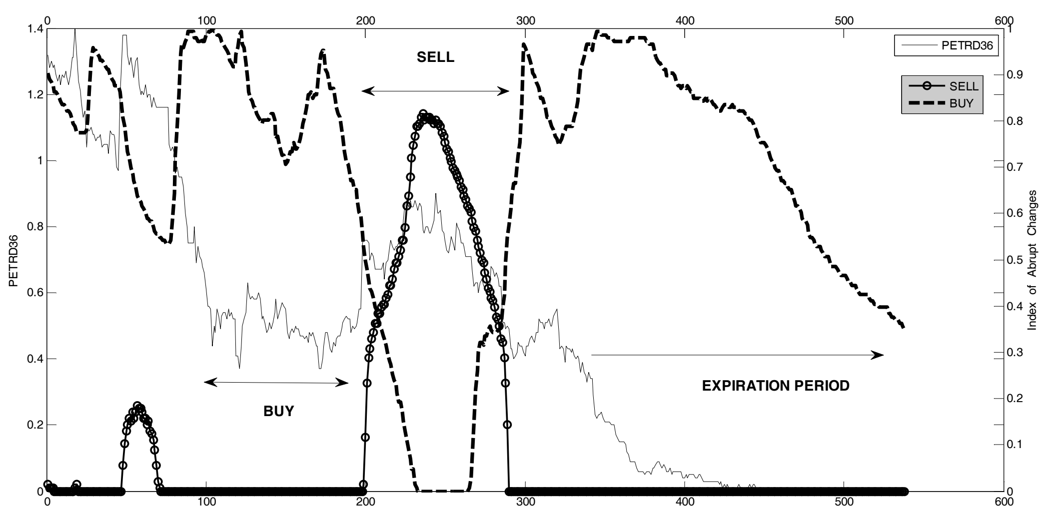

Figure-7: PETRD36 options (left axis) and the buy-sell proposed index (right axis) in full line and dot-line.

3. AN AUTOMATIC INVESTMENT STRATEGY

Initially a simple strategy based only on the instantaneous values of the sell and buy indices is presented. The strategy is simply to buy when the buy-index is greater than 0.8 and sell when the sell-index greater than 0.8. In figure 8, it is possible to note that from September-2009 up to May-2010, trading with the option VALE yielded a cumulated earning of R$ 9.52 (per share) or 833% in 9 months. However, the results using this simple strategy turned out to be not so good for option PETROBRAS. In the same time the strategy presented loss of R$ 1.50 (per share) in 9 months.

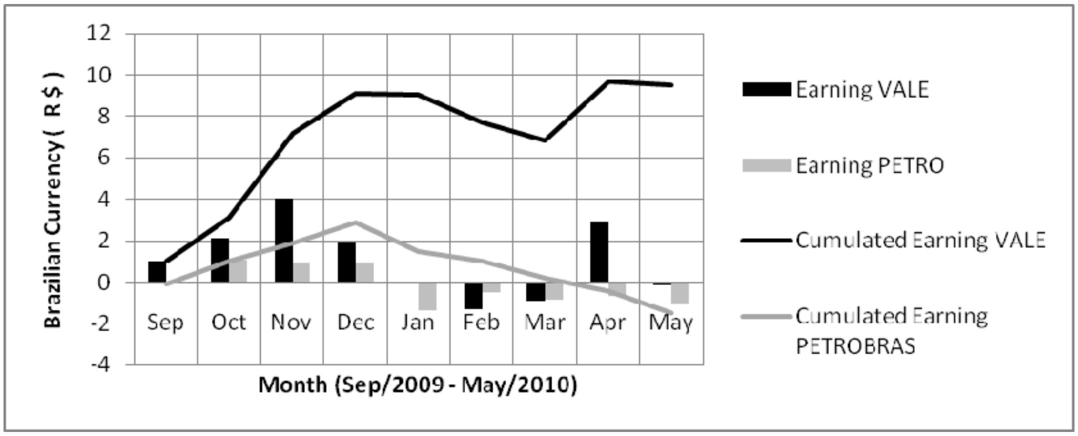

Figure-8: Results of earning of options VALE and PETROBRAS (Brazilian Stock Market).

In fact, the indices are computed using data contained in a time window, so that they tend to present a small lag. In other words, after the peaking, when the cause of stress becomes bygone, the indices do not decay instantly. Furthermore, it becomes apparent that not only the instantaneous values of the indices, but their estimated slopes must play an important role in the process of decision making. Therefore, the new strategy is to consider intervals between peaking of the two indices (buy and sell). In this case, selling was considered when sell-index was greater than 0.98 and buying was considered when buy-index was greater than 0.98 and evaluations of this index at four successive points was above of 0.98 (indicating increasing or decreasing trends). Hence, when $(\zeta(t)-\zeta(t-1)) > 0$ and $(\zeta(t-1)-\zeta(t-2)) > 0$ and $(\zeta(t-2)-\zeta(t-3)) > 0$ and $(\zeta(t-3)-\zeta(t-4)) > 0$ it was considered that the best action would be to buy. With sell-index greater than 0.98 a similar approach was also considered. More specifically, sell options when the buy-index was less than 0.98 and four evaluations for buy-index were such that $(\zeta(t)-\zeta(t-1)) < 0$ and $(\zeta(t-1)-\zeta(t-2)) < 0$ and $(\zeta(t-2)-\zeta(t-3)) < 0$ and $(\zeta(t-3)-\zeta(t-4)) < 0$. The results are presented in Fig. 9. It is possible to note that this strategy is satisfactory, despite the fact that it yielded lower profits in terms of VALE5, since the improvement in terms of the investment in PETR4 is significant. In this case the earning for VALE5 was R$1.00 per share and to PETR4 was R$0.30 per share.

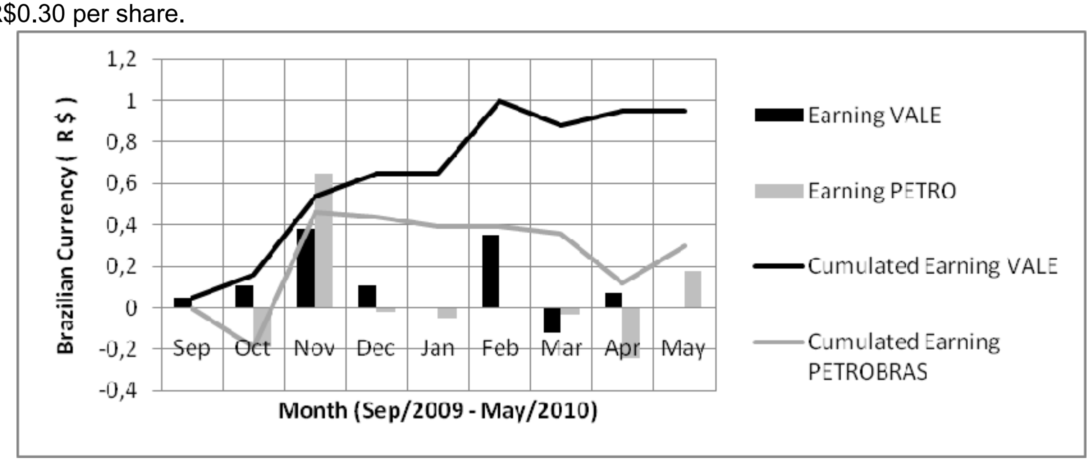

Figure-10: Results of earning of options VALE and PETROBRAS (Brazilian Stock Market).

4. CONCLUSIONS

This work is concerned with the use of indices proposed by the authors in previous articles in a system for automated trading in an electronic financial market. The sell and buy-indices are combined in a relative simple way to determine a timing strategy to trade options. Many cases studies were carried out to evaluate the proposed strategy, using Ibovespa data covering 2009 and 2010, as well as options offered by two Brazilian firms. It was shown that the strategy that uses informations on the trends exhibited by the indices yields significantly superior results that the one based only on the instantaneous values of the indices.

ACKNOWLEDGEMENTS

The authors are grateful to *CNPq* – National Council for Research and Development of Brazil for partially funding the project that lead to the presented results (grants 0686/05 and 307379/2007-8).

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WOULD GOVERNMENT POLICY CONTROL OF EXECUTIVE COMPENSATION FOR LARGE PUBLIC FIRMS PREVENT ANOTHER FINANCIAL CRISIS?

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ABSTRACT:

This research paper uses economic and financial principles to determine the efficient role of firms in determining executive compensation in a competitive market economy, and the efficient role of government in the absence of private sector failure. Given a financial crisis, demonstrating private sector failure, the paper explains how efficient and fair government intervention could help improve market conditions, in principle. However, government intervention usually demonstrates public sector failure. The authors explain why government policy control of executive compensation would likely worsen the performance of large financial firms and fail to prevent a future financial crisis.

***Keywords**: Executive Compensation, Government Policy, Corporate Management, Financial Crisis, Private Sector Failure, Public Sector Failure, Competitive Market Economy*

1. INTRODUCTION

The latest financial crisis of 2007-2009 has created a populist call for U.S. government policymakers to increase their regulatory control over the too-big-to fail financial firms on Wall Street, to reduce their systemic risk of creating a future financial crisis, where taxpayers on Main Street could be stuck with the bill of having to cover their potentially trillions of dollars in losses (O'Rourke, 2010; Cocheo, 2009). President Obama, U.S. legislators, and government regulators of financial firms have proposed and will soon approve a major financial regulatory reform law. Included in that financial regulatory reform bill are increased government policy controls over executive compensation (Barlas, Jett, Li, and Walsh, 2009).

This research paper uses economic and financial principles to explain the efficient role of firms in determining executive compensation in a competitive market economy, under either perfect or imperfect market conditions. Given private sector failure, as demonstrated by the recent financial crisis, the authors explore whether government policy controls over executive compensation would help to improve the financial performance of large financial firms enough to prevent a future financial crisis (Jeppson, Smith, and Stone, 2009).

In addition to its referenced research sources, the paper is informed by the many years of executive experience and former U.S. government service of one author, complemented by the other author's many years of experience teaching economics and finance to MBA students .

2. THE EFFICIENT ROLE OF FIRMS IN DETERMINING EXECUTIVE COMPENSATION IN A COMPETIVE MARKET ECONOMY

Competition is the most important disciplining mechanism in a competitive market economy (Truett and Truett, 2004). In an efficient market, no one is overpaid nor underpaid; everyone is fairly paid. It isn't profit-maximizing to overpay executives, but offering executives less than their opportunity cost would make it difficult for companies to attract high-quality executives and put the company at risk of losing current executives to a higher-valued use. Competitive markets are largely self-regulating. In response to changes in market conditions, companies will adjust to the new equilibrium in each market, including correcting any inefficient imbalances in compensation for their executives in the labor market.

To maximize labor productivity, it's best for companies to use a productivity-based or performance-based compensation system. Executives can earn more by producing more, in ways that increase revenue and economically add value to the company (Agarwal, 2010; Wheatley and Doty, 2010). Financially, companies can afford to pay their executives a wage up to the value of the marginal product they produce

(W = VMPL). Financially, it would be inefficient to pay employees, including executives, more than they're worth. Companies try to buy low, globally.

Both team-based work and individual work need to be included in measuring the productivity of executives and other managers. The short-term and longer-term financial performance of the company need to be considered in measuring the performance of executives and other managers (Bhagot and Romano, 2009).

The market system of prices is the most efficient allocative mechanism in a competitive market economy. The wage is the price of labor. From the perspective of the firm, the wage is the cost of all types of compensation it provides, including monetary and non-monetary forms of compensation, including both current and expected future pay. The present discounted value of expected future pay raises and benefit increases are be an important part of the compensation needed to attract and retain desired employees, including executives.

Executive pay is usually negotiated by each individual executive and the compensation committee of the Board of Directors, documented by a multi-year employment contract (Kahan and Rock, 2010). Breach of a contract by either the company or an executive would be a violation of contract law. Compensation packages for corporate executives can by complex, including many types of non-monetary compensation, such as housing, transportation, travel, and other living allowances, stock options and shares of stock in the company, low-cost loans, paid time off, as well as insurance and pension benefits. A significant percentage of compensation needs to be variable and dependent on the company's financial performance and the executive's contribution to that performance.

However, paying executives primarily in options to buy their company's stock, exposes them to substantial investment risk, for which they would need to be paid a substantial risk premium, given that the options may never be in the money. Paying executives in shares of the company's stock, with the restriction that the shares can't be sold for several or more years also exposes executives to a high investment risk, requiring that a high risk premium be included in the compensation, given that the stock of any company could sharply decline in value and could become worthless before executives are permitted to sell their shares. In addition, continued employment of executives is not guaranteed; so some provisions must be included to fairly compensate executives in the event they are laid off before they can exercise their stock options and/or sell their stock shares. As shown by General Motors (GM) and Citibank, in the 2007-2009 financial crisis, even a well-established company with a long history of financial success could go bankrupt and have its common stock value wiped out within a few years.

Ideally, executives will think like and act like the entrepreneurial shareholders they represent, thereby trying to maximize the return to shareholders, by always acting in the long-term interest of the company (Fahrer, 2009; Bernardo, Cai, and Luo, 2009). Financially, it is efficient for executives to maximize the present discounted value of the current and expected future profits of the company, at a manageable level of risk. Per the invisible hand principle, doing what is best for the company is usually consistent with doing what is best for most stakeholders of the company, including its creditors, customers, suppliers, employees, the government, and society (Friedman and Friedman, 1981).

A principal-agent problem exists when a conflict of interests causes managers, rationally acting in their own self-interest, to act against the interest of the company and its shareholders (Mishkin, 2007). It is the responsibility of the Board of Directors to design a compensation system that keeps potentially costly principal-agent problems at a manageable cost for the company (Girasa and Ulinski, 2009; Henry, 2009). The Board of Directors is also responsible for monitoring the practices of executives, and prohibiting any moral hazard from arising that could hurt the company financially (Harris, 2009).

3. THE EFFICIENT ROLE OF GOVERNMENT IN THE ABSENCE OF PRIVATE SECTOR FAILURE

Government laws and regulations provide the rules of the game, which limit the freedoms available to market participants, in trying to discipline them to help themselves only in ways that also help society (Schumpeter, 1976). In a representative democracy, it is efficient for government policymakers to maximize the economic well-being of their constituents in society. For example, all publicly-traded corporations must meet the U.S. government financial accounting standards in their financial statement reports.

Although it is best for government to do whatever it can to improve market conditions, its responsibilities would be limited to laissez-faire policies in an efficient open capitalistic market economy. A relatively small government would maximize the freedom of market participants, who could use that freedom to raise their standard of living, thereby maximizing their quality of life.

4. PRIVATE SECTOR FAILURE AND PUBLIC SECTOR FAILURE

In practice, private sector failure exists, caused by imperfect competition, imperfectly flexible wages and prices, imperfect information, and other market imperfections. The existence of private sector failure economically justifies some government intervention, beyond the scope of laissez-faire policies, when it can clearly improve market conditions. However, despite their good intentions and best efforts, government policy attempts to correct the market problems created by private sector failure often fail to do so, and sometimes unintentionally worsen market conditions (Stein, 1994). This demonstrates the problem of public sector failure. Many government policies have unintended consequences, usually making them less effective than expected in fixing market problems. Politicians themselves are well-known for having conflicts of interests, sometimes striving to increase their own income and/or get re-elected, even when that conflicts with making policy decisions that are best for the general public they're elected to serve.

The U.S. government imposed a minimum wage law, expecting it to increase the wage income of the lowest-wage workers The minimum wage acts like a legal price floor. Whenever the minimum wage exceeds the equilibrium market wage for these workers, it creates a surplus of this labor, with fewer workers demanded and more supplied. An unintended consequence is an increase in the unemployment of low-wage workers, everything else equal. Imposing a legal maximum wage on executives pay would act like a price ceiling. Whenever the price ceiling is below the equilibrium market wage, it creates a shortage of executive-level labor, with more workers demanded but less supplied, for a given quality. In recent years, starting with Enron in 2001, some of America's largest companies have gone bankrupt or incurred huge financial losses, despite being led by some of the highest-paid executives (Giroux, 2008). These include Jeff Skilling at Enron, Bernie Ebbers at Worldcom, Dennis Kozlowski at Tyco, Bernie Madoff at Madoff Investment Securities, Rick Wagoner at General Motors, Hank Greenberg at AIG, and Ken Lewis at Bank of America. These executives have personally suffered from the financial losses that occurred on their watch; they have been disciplined by the market. Skilling, Ebbers, Kozlowski, and Madoff all went to jail for financial fraud. Wagoner, Greenberg, and Lewis took substantial pay cuts, then retired. All of them lost a fortune when their company's stock price declined dramatically. However, these are not typical companies, not typical market conditions, and not typical corporate executives. Therefore, these non-representative unique cases cannot be fairly and efficiently used to develop a more restrictive set of regulatory constraints on executive compensation for all publicly-traded corporations. Nonetheless, in response to the political pressure created by the public outrage over these high-profile, overpaid, failed executives, U.S. government policymakers are creating stricter financial regulations to increase government policy control over public firms' executive compensation.

These new constraints on executive compensation are likely to be less fair and less effective than government policymakers expect in improving the compensation of corporate executives in the United States. Here are some of the important problems with these new regulatory constraints.

- Imposing a single national compensation standard for all executives will not permit companies to develop customized unique standards for their particular companies and their particular executives. A one-size-fits-all regulatory standard is not best for all executives at all companies (Vieito, khan, Cerqueira, and Brandao, 2008).
- Many of the largest U.S. companies are multinational corporations (MNCs), operating internationally in many nations (Eiteman, Stonehill, and Moffett, 2007; Stiglitz, 2006; Porter, 1990). These companies have to manage different regulatory standards in many different countries. Increasing the regulatory constraints in one country will encourage them to move abroad, to escape or lessen the cost of

these constraints. Some U.S. firms could reorganize as foreign firms. Some U.S. executives could move to better-paying foreign firms. Globalization is increasing the mobility of corporations and their executives.

- Any significant reduction in executives pay created by the new compensation regulations is likely to increase the turnover of corporate executives and lower the quality of executive replacements. Some of the highest-paid and most successful executives are likely to retire, withdrawing their leadership from the U.S. market economy. For example, Warren Buffet became a billionaire as the CEO and an owner of Berkshire Hathaway, an equity investment company. His reputation as the world's most successful investor has made him a powerful role model for other business leaders who would like to duplicate his financial success.
- Given that market participants, including managers are forward-looking, increasing the political risk of additional future regulatory constraints on executive compensation will reduce the incentive for lower-level managers to climb the corporate ladder, thereby reducing their incentive to increase their education and improve their managerial skills.

To avoid these new regulatory constraints on public corporations, some executive owners will take their companies private.

- Corporations and their executives are likely to develop innovative ways to avoid or circumvent the increased regulatory constraints, thereby conforming to the letter of the law without conforming to the spirit of the law. Companies and their executive-level managers are not passive observers of the legislative process of creating new regulatory constraints on business practices. They lobby the government to discourage policymakers from creating new costly regulations. When more costly regulations seem unavoidable, firms often help write the regulations, to make them more market friendly. When costly regulations do become law, firms work to reduce and/or escape the costly regulatory constraints. For example, in the 1970s and early 1980s, to escape Regulation Q interest rate ceilings on checking accounts and savings accounts, banks created new types of accounts that were not subject to these costly regulatory constraints.
- If new regulations reduce the ability of companies to pay executives for productivity increases and performance improvements, productivity and performance are likely to decline, along with a decline in the scientific and technological improvements that create them. These negative changes would reduce the future standard of living for most Americans. For example, Bill Gates, III became a billionaire as the CEO and an owner of Microsoft. While at the helm of Microsoft, he helped to create an information technology revolution that raised living standards around the world.
- To be effective, the government needs to enforce its regulations, by monitoring business practices. Those companies that violate the regulations need to be identified, indicted, prosecuted, and punished. That legal process is often difficult, time-consuming, and costly, which reduces the net economic benefit to society of imposing the regulatory constraints. However, failure to enforce government regulations or even lax enforcement undermines the rule of law. In our dynamic global market economy, regulations are likely to become quickly outdated, thereby making them inefficient. Continuing to enforce outdated regulations that interfere with firms' ability of compete nationally and internationally could also undermine the rule of law.
- Before imposing any new regulation, government policymakers need to forecast the expected economic costs and benefits. Only those regulations that are predicted to have significant net economic benefits to society make sense financially. Given that forecasting errors are common, even for expert forecasters, policymakers need to be careful not to overestimate the economic benefit of new regulations nor underestimate their cost. The optimal level of regulation is where the marginal cost equals the marginal benefit (MC = MB) to society. The U.S. financial sector is already heavily regulated by both the federal government and state governments. If existing regulation now exceeds the socially optimal level, then reducing regulatory constraints would be an efficiency improvement; increasing regulation would be reduce the economic well-being of society. Recognizing the mistake of over-regulation, in the last few decades, the U.S. government has deregulated some financial industries, including the banking industry, which has improved their performance and the performance of the U.S. economy.

5. CONCLUSIONS

In a competitive market economy, in the absence of private sector failure, it's best for the government to be relatively small, limited to laissez-faire policies. It is best for private firms to determine executive compensation. Given private sector failure, as demonstrated by the recent financial crisis, government policy intervention could improve market conditions, including executive compensation, if government policies were efficient and fair. However, in practice, government policy intervention is likely to demonstrate public sector failure to be efficient and fair. This paper uses economic and financial principles to explain why government policy control of executive compensation would likely worsen the performance of large financial firms and fail to prevent a future financial crisis.

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CORPORATE SOCIAL RESPONSIBILITY: EMERGING MARKETS WITH SPECIAL REFERENCE TO INDIA

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ABSTRACT:

CSR has come a long way in India and other emerging markets. From responsive activities to sustainable initiatives, corporates have clearly exhibited their ability to make a significant difference in the society and improve the overall quality of life. This paper focuses on the concept of CSR, its dimensions and relevance in emerging markets with special reference to India. An attempt has also been made to outline the initiatives taken by the agencies, government and the corporates in respect of the CSR. It also contains the studies by the Indian companies in respect of the CSR issues.

1. INTRODUCTION

Corporate social responsibility (**CSR**), also known as **corporate responsibility**, **corporate citizenship**, **responsible business**, **sustainable responsible business** (**SRB**), or **corporate social performance**, is a form of corporate self-regulation integrated into a business model with the commitment of business to contribute to sustainable economic development. Ideally, CSR policy would function as a built-in, self-regulating mechanism whereby business would monitor and ensure its support to law, ethical standards, and international norms. Consequently, business would embrace responsibility for the impact of its activities on the environment, consumers, employees, communities, stakeholders and all other members of the public sphere. Furthermore, CSR-focused businesses would proactively promote the public interest by encouraging community growth and development, and voluntarily eliminating practices that harm the public, regardless of legality.

Corporate Social Responsibility is defined as operating a business that meets or exceeds the ethical, legal, commercial and public expectations that society has from business.

The **World Business Council on sustainable development** has defined corporate social responsibility as the **"commitment of business to contribute to sustainable economic development, working with employees, their families, the local community and society at large to improve their quality of life."** It is the backbone of today's business sustainability. **Kotler** cites several benefits of corporate social initiatives on the part of corporates. It includes-

1) Increase in sales
2) Increase in market share
3) Strengthened brand positioning
4) Improves corporate image
5) Increased appeal for customers, employees and investors
6) Reduced operating cost

The following is the major underlying thought in respect of corporate social responsibility.

- What has been the organization's contribution to society and the economy as a whole?
- Has the organization employed ethical business practices?
- Does it contribute to the sustainable development of the economy and the environment in which it operates?

2. MODELS OF CSR

Some of the models that are developed over the time are as follows:

2.1. ETHICAL:
This model is the voluntary commitment to public welfare which has its roots in Gandhian philosophy of

trusteeship in India.The Tatas, Birlas and Reliance Industries demonstrate this model who have provided cash, community investment trusts and schools.

*2.2 STATE -OWNED PSUs***:**

State owned PSUs(Public sector undertakings) such as Bhilai and Bokaro have been in existence in India since 1947.They provide housing and schools to workers but this model is now being challenged by the trend of disinvestment and privatization.

2.3. FREE MARKET:

This model is a liberal approach with the belief that free market would take care of corporate responsibility.

2.4. STAKEHOLDERS MODEL:

According to this model the companies are expected to stick to the *Triple Bottom Line* approach or a Tripple P Impact -People, Planet and Profit.

The triple-bottom-line stresses on the following:

1. The terms like shareholder's wealth is being replaced by stakeholders well-being.
2. It highlights sustainable development and economic sustainability
3. Corporate profits to be analyzed in conjunction with social prosperity
4. Maximization of profit is being gradually replaced by the concept of optimization of profits.

3. IMPLEMENTATION AND KEY CHALLENGES ACCORDING TO WORLD BANK

Corporate Social Responsibility is a concept that seeks to bring together the apparently exclusive worlds of the corporate and the society. Society here means all the stakeholders in the firm. CSR implies the duty of the corporate to ensure the safety of all the stakeholders. It is closely linked with the concept of sustainable development whereby not only financial concerns should drive the decisions of a firm but also concerns of the society and environment.

In World Bank study, it was found that the three key challenges to the implementation of CSR are:

1. Generation of inefficiency and confusion in the buyer CSR codes
2. Traditional implementation of CSR strategies not achieving the desired results
3. Insufficient information about the business benefits of CSR implementation

The World Bank then proposed some solutions to go forward. Effective implementation of CSR involves active engagement of the public sector, capacity building, empowerment of the workers, development of standards and harmonizing them with the firm's objectives and goals, ongoing research, removal of economic barriers to CSR, etc… Public sector engagement involves host government actions as well as home country government. They must build a sustainable relationship so as to promote CSR. In order to harmonize standards, care must be taken to address implementation guidelines, training and education, sharing of information, and monitoring of procedures. In Morocco, employers have consolidated a code of conduct that is in sync with their CSR implementation plans. Some of the community issues in which CRS plays a major role is education and training, community health, regional environment, poverty eradication, human and civil rights, indigenous rights and regional development.

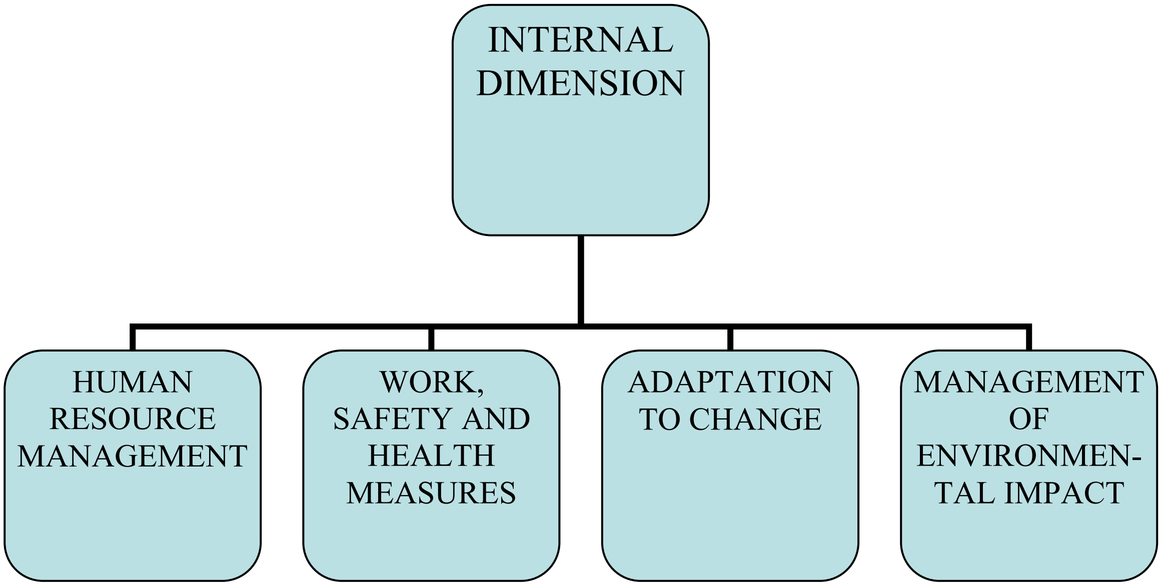
4. DIMENSIONS OF CSR AND RELEVANCE FOR INDIA AND EMERGING MARKETS

Commission of European Communities identifies two main dimensions of CSR, an internal dimension relating to practices internal to the company and an external dimension involving the external stakeholders.

4.1. INTERNAL DIMENSION

These dimensions relates to practices which are internal to the company, which need to be modified to incorporate CSR practices. The components of Internal dimensions are:

Fig.1 Components of Internal Dimensions



HUMAN RESOURCE MANAGEMENT:
CSR can be successfully implemented in an organization through precise management of its own work force. The internal dimension of CSR includes elements like providing an environment of long life learning for employees, employee empowerment, better information flow, improving the balance between work family and leisure, diversified work force, profit sharing and share-ownership schemes, concern for employability and job security for others. Moulding of recruitment policies to include people from minorities, older worker, women and long term employed would be significant steps for incorporating CSR practices. In the context of emerging markets the availability of cheep labour is an encouraging factor for companies and the labour intensive distribution remains economical in emerging markets.

WORK, SAFETY AND HEALTH MEASURES:
Work safety and labour health had the direct impact on productivity of the labour force. Although legal measures exist in most nations in maintaining standards for ensuring worker safety and providing health benefits, recent trends have made it imperative for companies to adopt a proactive approach to this issue. In emerging markets where there is significant cost advantages in labour, outsourcing of labour and processes have led to situation where companies not only need to maintain high safety levels in their own premises but also ensure that there suppliers and other connected parties comply with these principles. The increased focus on safety standards and employee welfare has led to the development of standards across industries.

ADAPTATION TO CHANGE
A recent trend in the global business scenario has been the wide spread use of mergers and acquisitions for business expansion. Also downsizing has been used often ineffectively, as a cost cutting measure by firms in their relentless push for profits. According to the Green Paper (2001) by the Commission of European Communities “Restructuring in a socially responsible manner means to balance and take into consideration the interests and concerns of all those who are affected by changes and decisions. However, Bhattacharyya and Rehman (2003) point out that although most emerging economies including India, china and Bangladesh have labour laws preventing labour retrenchment even in the event of declining sales, in practice lobbying with the bureaucracy and government is an aspect which firms cannot chose to ignore.

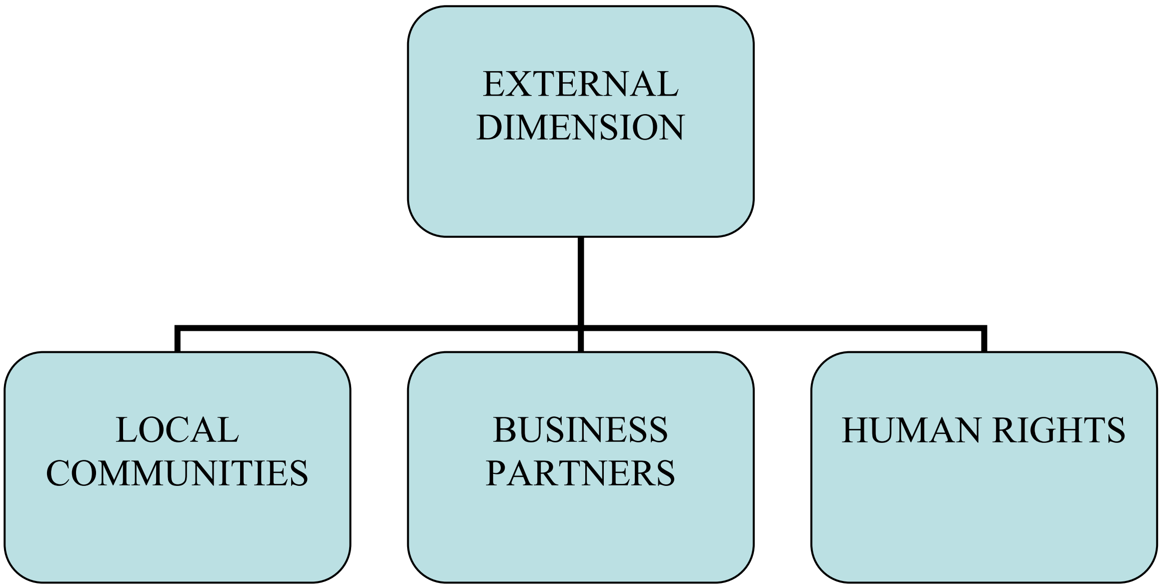
MANAGEMENT OF ENVIRONMENTAL IMPACT
Optimization of resource utilization and reducing environment damaging effluents can reduce the environmental impact. This will also enable the firms to affect significant cost savings in energy bills and

pollution costs. Many firms in emerging markets have to face serious repercussions from the state and society for over exploitation of natural resources and disregard for environmental safety measures.

EXTERNAL DIMENSION

These dimensions relates to practices which are external to the company which is significant with the advent of globalization leading to development of international standards of business practices. The components of external dimensions are:

Fig.2. Components of External Dimensions



LOCAL COMMUNITIES:

The development of positive relationship with the local community and thereby the accumulation of social capital is particularly relevant to non local companies. These relations are being increasingly used by multinational companies to support the integration of their subsidiaries into various markets in which they are present. Deep understanding of the local community and social customs is an asset, which can be utilized by companies to gain strategic advantage.

BUSINESS PARTNERS:

Building long term relationships of sound ethical foundation with suppliers and customers will enable companies to meet better customer expectations and lower costs and complexity. Companies in emerging markets actually take on additional CSR responsibilities because of existence of outsourcing opportunities in the form of suppliers and outsourcing agents. Also as a part of their social responsibility, companies are expected to provide high quality products and services, which meets customers expectations in a manner reflecting the company's concern for the environment and local conditions. Thus, in emerging markets, consumer based business strategies would enable companies to build long lasting relationships with consumers.

HUMAN RIGHTS:

According to Robbins "Companies operating in countries where human rights are regularly violated may experience a climate of civil instability and corruption that makes for uneasy relations with government officials, employees, local communities and shareholders". In the context of emerging markets, operations of companies should not impinge on the land rights of the community. In particular, the company needs to make sure that people are not forcibly removed from there homes and their livelihood is not endangered. There is the growing need to develop proper consultive processes with local groups protesting against projects and operations in which they are involved. Companies need to ensure that human rights principles are withheld in all their operations and related activities in emerging markets.

5. RELEVANCE OF CSR IN RECENT TIMES

1. Globalization and proliferation of cross- border trade by Multinational Enterprises resulted in increasing awareness of CSR practices relating to areas such as human rights, environmental protection, health safety and anti corruption.
2. Organizations such as United Nations (UN), Organization for Economic Cooperation and Development (OECD) and International Labour Organization (ILO) have developed guidelines, policies and principles that outline norms for acceptable corporate conduct.
3. Easy access to information about corporate activities enables the public to be more informed.
4. Consumers are becoming more aware of business policies of companies relating to handling of social and environmental issues.
5. Recent high profile corporate collapses as in case of Satyam Computers and Lehman Brothers have contributed to public distrust and need for improved corporate governance, accountability and transparency.

6. RESULTS OF THE KARMAYOG CSR RATINGS 2009 FOR INDIAN COMPANIES

The Karmayog Corporate Social Responsibility Ratings 2009 is the 3rd CSR study and rating by Karmayog. This is the only such CSR study and rating of its kind in the world.

Table 1: CSR study

Karmayog CSR Rating 2009	**No. of cos.**	**% of cos.**
Level 5	0	0%
Level 4	13	3%
Level 3	66	13%
Level 2	146	29%
Level 1	147	29%
Level 0 (lowest)	128	26%
Total	**500**	**100%**

Companies with a Level 4 Rating are:

Ballarpur Industries, HDFC, Infosys Technologies, Jubilant Organosys, Kansai Nerolac Paints, Larsen & Toubro, Moser Baer (India), Tata Chemicals, Tata Consultancy Services, Tata Steel, Titan Industries, Wipro, and Yes Bank.

The 2009 results are encouraging with more companies at Levels 3 and 4, along with a marked increase in the number of corporates doing at least some CSR despite this period (financial year 2008-2009) being a recessionary year, which may have also caused a drop in the ratings of 45 companies.

Table 2: Comparative Results of the Karmayog CSR Ratings for 2009, 2008 and 2007

	2009		**2008**		**2007**	
Rating	**No. of cos.**	**%**	**No. of cos.**	**%**	**No. of cos.**	**%**
Level 5	0	0%	0	0%	0	0%
Level 4	13	3%	10	2%	4	1%
Level 3	66	13%	38	8%	38	8%
Level 2	146	29%	161	32%	144	29%
Level 1	147	29%	118	24%	93	18%
Level 0 (lowest)	128	26%	173	35%	221	44%
Total	500	100%	500	100%	500	100%

7. CSR INITIATIVES AND GREEN MEASURES BY INDIA INC

India Inc has joined hands to fine-tune all its activities falling under CSR. For this, it has set up a global platform to showcase all the work done by Indian firms. Confederation of Indian Industry (CII) and the TVS Group have collaborated to form the CII-TVS Centre of Excellence for Responsive Corporate Citizenship. It will provide consultancy services and technical assistance on social development and CSR.

- Reliance Industries and two Tata Group firms—Tata Motors and Tata Steel—are the country's most admired companies for their corporate social responsibility initiatives, according to a Nielsen survey.
- As part of its Corporate Service Corps (CSC) programme, IBM has joined hands with the Tribal Development Department of Gujarat for a development project aimed at upliftment of tribal in the Sasan area of Gir forest.
- The Indian paints industry is making its products more environment-friendly by opting for water-based paints and making it carcinogen- free.
- The Heating, Ventilation, Air-conditioning and Refrigeration (HVAC) industry is working to get rid of its 'global warmer' stigma through greater use of gases with zero Ozone Depletion Potential (zero ODP).
- Sustainable Technologies and Environmental Projects Ltd (STEPS) is planning to start a project to change plastic, organic and electronic waste into petroleum without the usual harmful residue.
- The financial services sector is going green in a steady manner. With an eye on preserving energy, companies have started easing the carbon footprint in their offices. The year 2009 witnessed initiatives including application of renewable energy technologies, moving to paperless operations and recognition of environmental standards. Efforts by companies such as HSBC India, Max New York Life and Standard Chartered Bank have ensured that the green movement has kept its momentum. These companies are sending mails and SMS to their customers asking them to shift to e-statements and e-receipts.

8. CSR INITIATIVES IN INDIA

Indian companies are now expected to discharge their stakeholder responsibilities and societal obligations, along with their shareholder-wealth maximization goal.
Nearly all leading corporates in India are involved in corporate social responsibility (CSR) programmes in areas like education, health, livelihood creation, skill development, and empowerment of weaker sections of the society. Notable efforts have come from the Tata Group, Infosys, Bharti Enterprises, Coca Cola India, PepsiCo and ITC Welcome group, among others.

In fact, **four Indians**, including **Sunil Mittal**, Chairman and Managing Director of the Bharti Group, non - resident Indian (NRI) businessman **Anil Agarwal, Shiv Nadar,** HCL Technologies Chairman and non government organization (NGO) activist **Rohini Nilekani** were featured in the **Forbes list of '48 Heroes of Philanthropy'.**

India has been named among the top ten Asian countries paying increasing importance towards corporate social responsibility (CSR) disclosure norms.

India was ranked fourth in the list, according to social enterprise CSR Asia's Asian Sustainability Ranking (ASR).

Corporate India has spread its CSR activities across 20 states and Union territories, with Maharashtra gaining the most from them. About 36 per cent of the CSR activities are concentrated in the state, followed by about 12 per cent in Gujarat, 10 per cent in Delhi and 9 per cent in Tamil Nadu.

ASSOCHAM's 'Eco Pulse Study' on CSR for 2009-10, released in June 2009, says some 300 corporate houses, on an aggregate, have identified 26 different themes for their CSR initiatives. Of these 26 schemes, community welfare tops the list, followed by education, the environment, health, as well as rural development.

In another study undertaken by automotive research company, TNS Automotive, India has been ranked second in global corporate social responsibility. The study was based on a public goodwill index and India received 119 points in the index against a global average of 100. Thailand was at the top slot with 124 points.

The Tamil Nadu government has presented its Corporate Social Responsibility Awards, to corporate companies including Oil and Natural Gas Corporation (ONGC), Chennai Petroleum Corporation Limited (CPCL), Steel Authority of India (SAIL) and Orchid Chemicals and Pharmaceuticals, for their CSR activities in different spheres, including agriculture, education, women's empowerment and new and renewable energy.

Although corporate India is involved in CSR activities, the central government is working on a framework for quantifying the CSR initiatives of companies to promote them further. According to Minister for Corporate Affairs, Mr Salman Khurshid, one of the ways to attract companies towards CSR work is to develop a system of CSR credits, similar to the system of carbon credits which are given to companies for green initiatives.

The government is also finalizing plans to ensure that public sector companies also participate actively in CSR initiatives. The Department of Public Enterprises (DPE) is in the final stage of preparing guidelines for central public sector enterprises to take up important corporate social responsibility projects to be funded by 2 to 5 per cent of the company's net profits.

The advantages of implementing CSR in a firm from a government's perspective are:
• Ensuring that labor and environment standards are met
• Enhancement of poverty-reduction strategies
• Leveraging the competitiveness of the country by making it attractive to investors

A government can help the firms in participating in an active manner by:
• Developing the CSR code based on the laws and regulations of the country
• Leveraging capacity building so that the standards are implemented by the local businessmen
• Ensuring that the reporting systems are accountable and transparent

9. CORPORATE SOCIAL RESPONSIBILITY INITIATIVES BY INDIAN CORPORATES

Anand Corporate Services Limited
Anand has a longstanding commitment to addressing the needs of the society, in view of its belief that for any economic development to be meaningful, the benefits from the business must trickle down to the society at large. Anand is of the firm view that the corporate goals must be aligned with the larger societal goals. 25 years ago, the SNS Foundation, an expression of Anand's corporate social responsibility, was born. The objective of SNS foundation was comprehensive community development. The Foundation has created programs in the fields of health, education, natural resource management and life skills training, only to make sure that fellow humans could breathe easy. The long term goal of Anand CSR is to implement concepts like 'Zero Tolerance Zone for Child Labour', 'Zero Waste Zone' using strategies like Reduce, Recycle and Reuse not only at Anand or SNSF locations but also to extend to Anand residential areas.

Aptech Limited
Aptech Limited, a leading education player with a global presence, has played an extensive and sustained role in encouraging and fostering education throughout the country since inception. As a global player with complete solutions-providing capability, Aptech has a long history of participating in community activities. It has, in association with leading NGOs, provided computers at schools, education to the underprivileged and conducted training and awareness-camps. Aptech students donated part of the proceeds from the sale of their art work to NGOs. To propagate education among all sections of the society throughout the country, especially the underprivileged, Aptech fosters tie-ups with leading NGOs throughout the country, including the Barrackpur-based NGO, Udayan, a residential school for children of leprosy patients in Barrackpur, established in 1970.The company strongly believes that education is an

integral part of the country’s social fabric and works towards supporting basic education and basic computer literacy amongst the underprivileged children in India.

Avon Cycle Limited
The poor and ignorant of India’s rural population turn to nearest towns and cities for healthcare. They face indifference and exploitation. Hope gives way to despair. This gave inspiration to AVON for locating MATAKAUSHALYA DEVI, PAHWA CHARITABLE HOSPITAL.Mr. Sohan Lal Pahwa, AVON's Chairman and Principal Trustee of the hospital, spent a good part of his working life devoted to philanthropy. The hospital, in its 5th year of inception, has risen to serve a model healthcare facility boasting of some bold experiments in its very early years of existence. Its support since inception has been of the order of Rs. 3 crore to date and it continues uninterrupted. Reaching out to the needy farther in the fields, the hospital holds regular camps in surrounding villages to propagate scientific approach to healthcare. Recently the hospital took the social responsibility concept a step further and formulated a scheme titled 'Celebrated Female Child' to enable and inspire positive and enduring environment for society's all–consuming passion for 'sons only' to end.

CISCO System Inc.
Philanthropy at Cisco is about building strong and productive global communities - communities in which every individual has the means to live, the opportunity to learn, and the chance to give back. The company pursues a strong “triple bottom line” which is described as profits, people and presence. The company promotes a culture of charitable giving and connects employees to nonprofit organizations serving the communities where they live. Cisco invests its best-in-class networking equipment to those nonprofit organizations that best put it to work for their communities, eventuating in positive global impact. It takes its responsibility seriously as a global citizen. Education is a top corporate priority for Cisco, as it is the key to prosperity and opportunity.

ICICI Bank Ltd
The Social Initiatives Group (SIG) of ICICI Bank Ltd works with a mission to build the capacities of the poorest of the poor to participate in the larger economy. The group identifies and supports initiatives designed to break the intergenerational cycle of poor health and nutrition ensure essential early childhood education and schooling as well as access to basic financial services. Thus, by promoting early child health, catalyzing universal elementary education and maximizing access to micro financial services, ICICI Bank believes that it can build the capacities of India’s poor to participate in larger socio-economic processes and thereby spur the overall development of the country. The SIG works by understanding the status of existing systems of service delivery and identifying critical knowledge and practice gaps in their functioning. It locates cost effective and scalable initiatives and approaches that have the potential to address these gaps and supports research to understand their impact. This is undertaken in collaboration with research agencies, nongovernment organizations (NGOs), companies, government departments, local stakeholders and international organizations.

Infosys Technologies Limited
Infosys is actively involved in various community development programs. Infosys promoted, in 1996, the Infosys Foundation as a not-for-profit trust to which it contributes up to 1%PAT every year. Additionally, the Education and Research Department (E&R) at Infosys also works with employee volunteers on community development projects. Infosys leadership has set examples in the area of corporate citizenship and has involved itself actively in key national bodies. They have taken initiatives to work in the areas of Research and Education, Community Service, Rural Reach Programme, Employment, Welfare activities undertaken by the Infosys Foundation, Healthcare for the poor, Education and Arts & Culture.

ITC Limited
ITC partnered the Indian farmer for almost close to a century. ITC is now engaged in elevating this partnership to a new paradigm by leveraging information technology through its trailblazing 'e-Choupal' initiative. ITC is significantly widening its farmer partnerships to embrace a host of value-adding activities: creating livelihoods by helping poor tribal make their waste lands productive; investing in rainwater harvesting to bring much-needed irrigation to parched dry land, empowering rural women by helping them

evolve into entrepreneurs; and providing infrastructural support to make schools exciting for village children. Through these rural partnerships, ITC touches the lives of nearly 3 million villagers across India.

Mahindra & Mahindra

The K. C. Mahindra Education Trust was established in 1953 by late Mr. K. C. Mahindra with an objective to promote education. Its vision is to transform the lives of people in India through education, financial assistance and recognition to them, across age groups and across income strata. The K. C. Mahindra Education Trust undertakes number of education initiatives, which make a difference to the lives of deserving students. The Trust has provided more than Rs. 7.5 Crore in the form of grants, scholarships and loans. It promotes education mainly by the way of scholarships. The Nanhi Kali project has over 3,300 children under it. We aim to increase the number of Nanhi Kalis (children) to 10,000 in the next 2 years, by reaching out to the underprivileged children especially in rural areas.

Tata Consultancy Services

The Adult Literacy Program (ALP) was conceived and set up by Dr. F C Kohli along with Prof. P N Murthy and Prof. Kesav Nori of Tata Consultancy Services in May 2000 to address the problem of illiteracy. ALP believes illiteracy is a major social concern affecting a third of the Indian population comprising old and young adults. To accelerate the rate of learning, it uses a TCS-designed Computer–Based Functional Literacy Method (CBFL), an innovative teaching strategy that uses multimedia software to teach adults to read within about 40 learning hours.

Dalmia Cement (Bharat) Limited

The water source for the villages in and around the Dalmia Cement factory is dependent on rains. During summer months, the villagers, particularly women folk, travel long distances to fetch water for drinking and other purposes. Considering the difficulties and hardship faced by the people, the company, after discussing with the village elders and concerned Government authorities, took the initiative of making water available by:

- Providing deep bore wells. So far, 45 bore wells have been provided in various villages, namely Kallakudi, Palanganathan, Malvoi, Elakkurichi, Muthuvathur, Pullabmadi, Edayathankudi etc. Approximately, 300 to 400 people get adequate drinking water from each bore well.
- Water tanks to store the water.
- Rain and seepage water is harvested in the quarries of the company is pumped into a tank and supplied to inhabitants. 44,000 trees were planted and nurtured over a period of eight years. The presence of large trees and vast greenery has considerably improved the ecology in the area.

DCM Shriram Consolidated Limited

Shriram Fertilizers and Chemicals, is a unit of DSCL, located at Kota, 475 kms. Over the last 3 decades, various initiatives have been undertaken by the unit, in the Hadoti region (Kota, Bundi, Jhalawar districts) in ICU, ambulances, family planning, medical assistance; schools, scholarships, emphasis on girl child education; water to people and infrastructure.

Goodearth Education Foundation (GEF)

Work of GEF was initiated in 1996 with a project in the Rai Bareilly district in Uttar Pradesh. The four-year project covered 63 government schools and benefited 15,000 children. GEF is currently implementing projects in Thane district, Maharashtra (in 56 schools & balwadis), Alwar District, Rajasthan (this Project is being implemented in partnership with the NGO Bodh Shiksha Samiti, covering 71 schools & balwadis) and Solan district, Himachal Pradesh (10 Balwadis). GEF Objectives include providing equal opportunities in pre-primary& primary education to all children, and quality of education by ensuring that it is relevant, effective and activity based.

Hindustan Construction Company (HCC)

HCC plays an active role in CSR initiatives in the fields of Health, Education, Disaster Management, and Environment. Disaster Resource Network(DRN) is a worldwide initiative, promoted by the World Economic Forum (WEF).Trained volunteers and equipment resources from Engineering Construction & Logistics companies will complement the existing efforts of Government, NGO's and International Organizations in disaster management. It was during the WEF annual meet that the massive earthquake struck Gujarat in January 2001. The need for a trained and effective participation from industry was first felt there. The members of Engineering and Logistics segment of WEF came together to establish this network. The idea was further strengthened during the 9/11 incident where again the industry participated in the relief operations. DRN Worldwide was formally launched in New York in January 2002. And shortly thereafter, DRN - India Initiative was launched.

India Aluminium Company Limited
The Women's Empowerment project was initiated by Indal-Muri in Jharkhand where the Company operates an alumina refining plant. It was implemented in collaboration with an NGO, CARE-Jharkhand. The central problem this project has attempted to address is the very low socio-economic condition of the rural and tribal population of Silli block caused by low agricultural productivity, lack of or low cash income, unresponsive health/ Integrated Child Development Services (ICDS) schemes. The Project has helped set up around 100 Self Help Groups so far, which are running successfully with members trained in various vocational income–generating skills, agricultural methods for better yields and health care initiatives. About 2000 women have been brought into the fold of this activity helping to improve not just their own lives but the quality of life of their children and families as well.
The Indal Women's Empowerment & Child Care project employed integrated package of strategies and interventions, such as:
- Establishment and Strengthening of Self Help Groups (SHG) in 30 strategically selected villages;
- Promotion of Nutrition Gardens and improved land / agricultural and natural resource management practices; and
- Creation of demand for improved ICDS/ health services through Self Help Groups and strengthening ICDS/ Health Department's service delivery

JCB India Ltd.
JCB India adopted a Government school, in the vicinity of the company premises as its social responsibility. They strongly believe that children are the foundation of our nation and they could be helped, we could build a better community and society tomorrow. The reason for adopting this particular school was the poor management of the school in terms of infrastructure, resources and quality of education. The company's commitment to the school goes much beyond just providing monetary support towards infrastructure and maintenance of school building.

Larsen & Toubro (L & T) Limited
Considering that construction industry is the second largest employer in India after agriculture, employing about 32 million-strong workforce, L&T set out to regulate and promote Construction Vocational Training (CVT) in India by establishing a Construction Skills Training Institute (CSTI) on a 5.5 acre land, close to its Construction Division Headquarters at Manapakkam,Chennai. CSTI imparts, totally free of cost, basic training in formwork, carpentry, masonry, bar-bending, plumbing and sanitary, scaffold and electrical wireman trades to a wide spectrum of the rural poor. As a result of the good response it received in Chennai, CSTI set up a branch at Panvel, Mumbai, initially offering training in formwork, carpentry and masonry trades. The Manapakkam and Panvel facilities together provide training to about 300 candidates annually who are inducted after a process of selection, the minimum qualification being tenth standard. Since inception, these two units have produced about 2,000 skilled workmen in various trades, with about sixty percent of them being deployed to L&T's jobsites spread across the country. The success of this training-initiative demonstrates that adoption of systematic training techniques are bound to yield efficient and skilled personnel in the shortest possible time, and in the power to convert the potential of the Rural Youth in Construction and upgrading Rural Economy in a small way

10. CONCLUSION

India is a fast growing economy and is booming with national and multinational firms. At the same time, the Indian land also faces social challenges like poverty, population growth, corruption, illiteracy just to name a few. Therefore it is all the more imperative for the Indian companies to be sensitized to CSR in the right perspective in order to facilitate and create an enabling environment for equitable partnership between the civil society and business. In this aspect, for understanding the historical developments, there are four models of CSR- ethical model, state owned PSUs, free market and the stakeholders model.

Nearly all leading corporates in India are involved in corporate social responsibility (CSR) programmes in areas like education, health, livelihood creation, skill development, and empowerment of weaker sections of the society. Notable efforts have come from the Tata Group, Infosys, Bharti Enterprises, Coca Cola India, Pepsi Co. and ITC Welcome group. For understanding the dimensions and relevance of CSR in emerging markets the Commission of European Communities identifies two main dimensions of CSR. In all CSR has come a long way in India and other emerging markets. From responsive activities to sustainable initiatives, corporates have clearly exhibited their ability to make a significant difference in the society and improve the overall quality of life.

DETERMINANTS OF PATIENT SATISFACTION WITH PHYSICIANS: AN EMPIRICAL ANALYSIS

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ABSTRACT

The quality of health care services is a major concern for all of the stake holders in the health care system. This has become increasingly important as the nation attempts to provide the best possible health care for the most people at an affordable cost. As costs rise, there is ever greater pressure to become more productive. Doctors and other providers spend less time with patients while trying to achieve good outcomes. One of the consequences has been that many patients feel less satisfied with the care they receive. This paper first examines the problems of defining and measuring health care quality, then explores the determinants of patient satisfaction with their doctors. It seeks to identify the extent to which patient satisfaction is affected by provider accessibility, perceived quality of outcomes, socioeconomic variables and lifestyle choices. The data for the study were obtained by a survey of employees of a medium size corporation.

Keywords: *Health Care Quality, Patient Satisfaction, Primary Care Quality, Specialist Quality*

1. NEED FOR THE STUDY

The provision of health care services by employers is a benefit highly valued by employees. The objective of the employer's plan administrator has been to provide high quality services at a reasonable cost. To assess how well the benefits serve patients' needs, there needs to be a systematic attempt to measure service quality. Although hospitals, clinics and therapy providers are vital to maintaining peoples' health, physicians drive the process by serving as the information hub. The physician must relate effectively with the patient to be able to diagnose and prescribe the best treatments or referrals to other doctors, hospitals or ancillary services. Thus the physician plays the key role in managing a person's health status.

How well the physician plays this role can be assessed objectively by how well the patient's status is managed, and subjectively by how satisfied the patient is with the experience. The objective effectiveness of patient management by his or her physician is not synonymous with whether the patient is quickly cured of all ailments, but rather how well those ailments are diagnosed and how appropriately they are treated. The outcome depends on how sick the patient is and how well he or she progresses – which may be simply arresting or reducing a decline in health. Such quality assessment can only be conducted by medical professionals and is routinely monitored by colleagues, hospitals quality assurance departments and health insurance plans.

Customer satisfaction is important for all products in all markets, no less for health care services. If employees are dissatisfied with their care, they will place less value on the benefits provided by their employer. It thus behooves the employer's administrator to assess satisfaction so that changes to plans can be considered. Measuring patient satisfaction has received increasing attention since the 1980s, when a large expansion in managed care began. Satisfaction data have been collected using in-depth patient interviews (Marcinowicz, L, et al, 2009). as well as a variety of survey instruments The former method is limited to small samples, yet can be open-ended and interactional to reveal the nuances of patients' perceptions. Although survey instruments can be limited by non-response of some cases, they make possible the large samples of cross sectional experience ratings. An interesting study by Jackson, Chamberlin and Kroenke (2001) survey patients at three points in time following a visit. The present study developed a new survey instrument that asked employees to rate many aspects of their health care experience, together with questions on their socioeconomic status, gender and lifestyle choices.

2. CURRENTLY AVAILABLE INSTRUMENTS

With the growth of managed care, there has been a parallel growth of interest in quality assessment from regulatory authorities, employers and the National Committee for Quality Assurance (NCQA), a not-for-profit private organization. NCQA has been working towards a standardized health care survey to create the potential for benchmarking and comparison among managed care plans. Although there are other instruments used, the NCQA questionnaire was the most comprehensive in the 1990's. Around 2000, the U.S. Department of Health and Human Services required federally funded health centers to use a standard Health Center Patient Satisfaction Survey (HRSA, 2010. All survey instruments seek to measure subscribers' satisfaction with the service provided by their plans. Subscriber satisfaction provides only one perspective on quality and may differ from the viewpoints of managed care plans, the medical profession and employers.

3. DEFINING QUALITY

Quality of health care is a complex concept which can be viewed from the perspectives of the various stakeholders in the health care system. Donabedian, (1980), among others, has written a number of treatises on the subject. Following are brief descriptions of the perspectives of important stakeholders:

- Patient: The patient's satisfaction with his or her care is fundamentally important in measuring quality. However, Donabedian points out that patients are usually poorly equipped to judge the quality of their care.
- Physician: The doctor's perspective is whether the patient's condition has been effectively managed, given his state of health and his means. Quality is a function of the appropriateness of diagnosis and treatment subject to the limitations of available facilities, drugs and technology.
- Employer: From the employer's perspective quality is a function of wellness of its employees and the amount of plan administration required. Cost is a significant factor but is distinct from quality.
- Health plan: Quality of service depends on the effectiveness of preventive care services, the incidence of complaints about unsatisfactory service and the plan's ability to satisfactorily maintain the health of its subscribers at the lowest cost.
- Government: Government is interested in the collective health of the nation's citizens. Quality is a function of the number of people provided with appropriate care subject to reasonable constraints on resources. The tradeoff between the depth and breadth of coverage and the resources expended is a social choice. Government is also concerned with the financial soundness and legal responsibilities of health care providers.

The present study attempts to measure quality from the perspective of the patient.

4. THE MEASUREMENT PROBLEM

Data for measuring the quality of health care can be classified as structural, process and outcome. *Structural data* measure the adequacy and qualifications of facilities, physicians, hospitals and staff. Many report cards on managed health plans use administrative ratios such as the turnover of physicians and the number of nurses per 100 hospital beds. *Process data* measure what steps are taken to provide patient care. The focus in managed care is on the review and approval process and on standards that are established for administering the process. *Outcome data* measure the actual results of care that is provided, the positive change in the status of patients' health attributable to the health care system.

Each of these assessment approaches has its own measurement problems. Structural data are easy and inexpensive to collect, but are limited in usefulness. It has not been shown that meeting structural standards such as those reported in managed care "report cards" ensures quality care for patients. Measurements on percent of board certified physicians, primary care and specialist physician turnover, patient to doctor ratios, etc. don't indicate how well health care is delivered to patients. Process data usually focus on adverse outcomes. Because of the heterogeneous population of patients, it is difficult to establish standards that apply in all cases. Even if health care providers were willing to provide proprietary information on the process for reviewing, approving and paying for care, it would be difficult to generalize as to its impact on quality for individuals. Outcome data have the potential of being most meaningful in measuring quality of care. Unfortunately, they are difficult to collect. Most data involve confidential doctor - patient information. Furthermore the time required for doctors and other providers to report such data is not paid for, so there is little incentive to participate. Moreover, health outcomes can be beyond the control of the health care provider system.

5. EXPERIMENTAL DESIGN

For this research, the authors prepared, administered and analyzed a subscriber satisfaction survey. Many issues had to be addressed in designing and administering the questionnaire, including questionnaire size, sample size, response rate, question validation and survey administration. We started with the “Annual Member Health Care Survey, Version 1.0” as published by the NCQA. Harris Allen (1995) made a set of recommendations to the NCQA for compromising on the brevity of the questionnaire and breadth of issues addressed and statistical soundness. He also suggested that questions on the health of the respondents be included so the responses can be adjusted for varying populations and to allow longitudinal studies to be made. The author’s instrument included questions on satisfaction and the extent to which respondents took an active role in health maintenance.

The questionnaire was administered to all employees of a medium size corporation that offers a wide choice of managed care plans. In order to get the highest possible response rate, the survey was distributed and collected by the human resources department of the corporation. This department felt that several questions were too sensitive and would adversely impact the response rate. One such question asked if the respondent had a physical or mental medical condition which adversely affected their performance on the job. These questions were modified or eliminated. The final questionnaire was 16 pages long with 41 multipart questions, resulting in 77 variables. Twenty nine of these variables were pertinent for the analysis of satisfaction with primary care physicians (PCP) and 21 for the specialists.

The questionnaire was distributed through internal mail to all full time employees with a cover letter from the director of human resources. The questionnaires were mailed back to the human resources department. All responses were completely anonymous and voluntary. One follow up letter was distributed to encourage all employees to complete the survey.

6. DATA ANALYSIS

The survey produced a response rate of 46%, which yielded 427 usable questionnaires. A few questions had a large number of missing values and these variables were ignored in the analysis. The research topic of this paper focuses on determinants of patient satisfaction with physicians. The following analyses were conducted:

1. Relationship between health plan and satisfaction with PCP’s and specialists
2. Correlation between satisfaction and the remaining variables
3. Factor analysis to identify meaningful composite variables
4. Regression analysis to see how well satisfaction can be predicted by other variables.

7. RESULTS AND DISCUSSION

7.1 Relationship between plan and satisfaction

Table 1 indicates that patients’ degree of satisfaction with their primary care doctor was much higher in some plans than in others. PHS doctors had very high patient satisfaction with 96% satisfied or better, while Kaiser doctors had 14% of patients dissatisfied with their services. Table 2 shows that patient satisfaction with specialists was even more variable than for primary care doctors. Patients who were satisfied ranged from a high of 100% for PHS to a low of 69% for HIP. The information in these two tables was helpful for adjusting the portfolio of plans offered to employees the following year.

TABLE 1-TABLE 2 Satisfaction with Primary Care/Specialists

Satisfaction with Primary Care Physician				
Health Plan	Very Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Very Dissatisfied
Aetna	61%	28%	9%	2%
Oxford	64%	29%	5%	2%
US Healthcare	54%	40%	6%	0%
PHS	81%	16%	3%	0%
Kaiser	63%	23%	7%	7%
HIP	42%	46%	4%	8%
Total	62%	29%	7%	2%

Satisfaction with Specialists				
Health Plan	Very Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Very Dissatisfied
Aetna	76%	20%	3%	2%
Oxford	81%	14%	3%	3%
US Healthcare	61%	22%	4%	13%
PHS	76%	24%	0%	0%
Kaiser	88%	8%	0%	4%
HIP	25%	44%	19%	13%
Total	73%	20%	3%	4%

7.2 Correlation analysis

This analysis was conducted to reveal relationships among physician satisfaction variables, health behavior variables and socio-economic variables. As is common with social surveys, many of the correlations were low. The following variables had a correlation of >0.5 with satisfaction with primary care physicians (r in parenthesis):

Fig.1.- Correlations

Overall quality of care received (0.773)	Outcome of the care received (0.701)
Doctor's knowledge and skill (0.753)	Doctor familiarity with patient's history (0.666)
Quality of exam and diagnosis (0.747)	Ease of obtaining test results (0.525)
Adequacy of time spent with doctor (0.722)	Ease of making appointments (0.520)
Doctor's attentiveness to patient (0.708)	

An interesting observation is that the outcome of the care received is less strongly related to satisfaction with the PCP than quality of the relationship and evaluation of doctors' capabilities. None of the socioeconomic or lifestyle variables correlated highly with PCP satisfaction. There were considerably fewer usable responses to specialist questions, and no variables had a correlation with specialist satisfaction of greater than 0.5. The highest correlations were with outcome of the care received (0.431), and thoroughness of treatment (0.417).

7.3 Factor analysis

To understand the underlying variable components of respondents' perceptions of primary care physician quality, a principal components factor analysis was conducted using twenty-nine quantitative variables. In the principal components analysis, seven factors with significant eigenvalues were extracted. These accounted for 59.6% of the total variation. To help in the interpretation of the factors, a varimax rotation was performed.

The variables with highest loadings on the factors were used to identify quality dimensions implicit in the survey responses. Thirteen of the variables had factor loadings exceeding 0.7 and an additional thirteen variables had loadings between 0.5 and 0.7. The factors and their associated variables are shown in the table below. The primary factor can be described as physicians demonstrating patient-centered care. The second factor relates to the ease and convenience of making appointments. The third factor describes the patient's degree of healthy lifestyle.

TABLE 3: Factor Interpretation

Factor Interpretation		
Factor	Cum R^2	Variables
F1	26.60%	PCP attention, familiarity with patient, PCP skill, exam thoroughness, care quality, health outcome
F2	34.10%	Ease of appointment, lead-time for appointment for minor and routine care
F3	40.00%	Patient's health, weight, exercise frequency, nutritional balance
F4	46.00%	Patient's gender, educational level
F5	51.20%	Number of PCP visits, check-up frequency, patient's age
F6	55.60%	Sees same PCP
F7	59.60%	Change in health

7.4 Regression Analysis

Stepwise regression analyses were conducted to determine the significant variables for predicting patient satisfaction with their primary care physicians and specialists. The results for primary care satisfaction can be seen in table 4. The overall regression was highly significant. The adjusted R-square was 0.704 indicating that 70 percent of the variation in patient satisfaction with their primary care physicians can be explained by the regression model with only seven variables. As can be seen in the table, most of the explanatory variables relate to physician care, skill and attention to the patient and the ease of getting an appointment. The results for satisfaction with specialists can be seen in Table 5. There were much less data for specialists and the results, while significant, explain only 17 percent of the variation in patient satisfaction with their specialist doctors. The two significant variables for predicting specialist satisfaction are overall outcome with health care and the length of time waiting to see the specialist in the office.

TABLE 4 - TABLE 5 Phsyician Satisfaction

Primary Care Phsyician Satisfaction			Specialist Phsyician Satisfaction		
R	R-square	Adjusted R-square	R	R-square	Adjusted R-square
0.845	0.715	0.704	0.432	0.187	0.172
Variables	Coefficient	p-value	Variables	Coefficient	p-value
Constant	-0.383	0.160	Constant	2.202	0.000
Care quality	0.370	0.000	Outcome	0.286	0.001
Doctor skill	0.370	0.000	Office wait	0.116	0.009
Lead time minor	0.098	0.001			
Attention	0.114	0.015			
Office wait	0.052	0.012			
PCP familiarity	0.111	0.021			
Patient education	-0.053	0.047			

8. CONCLUSION

This study has discussed the challenges of defining and measuring health care quality, and described a survey instrument for measuring patient satisfaction with services they receive. Questions were included on provider accessibility, perceived quality of outcomes, socioeconomic variables, lifestyle choices and respondents' proactive health-related behavior. Using this research and the data from the survey, we identified some important determinants of patients' satisfaction with primary care physicians and specialists. A strong determinant of how satisfied patients were with their physicians was the health plan they subscribed to. Regression analysis produced a predictive model in which more than 70% of variability in PCP satisfaction was accounted for by 7 variables, the most important of which were care quality and perceived doctor skill. Factor analysis revealed several factors, the primary one encompassing the care and skill physicians provide their patients.

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DEVELOPING A CAPSTONE COURSE IN HEALTH INFORMATICS PROGRAM

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ABSTRACT

Capstone courses can serve as a meaningful bridge between students, faculty, and employers seeking to understand what to teach, what to learn, and how to use the skills new graduates bring to the real-world. Health Informatics is a career field whereby employers are seeking technologically advanced students to fulfill future business needs in order to improve quality of healthcare and lower costs. Selecting students with the necessary skill sets has been problematical because employers are able to hire all the resources they need from within their industry. Under these circumstances, a well designed capstone course can provide employers with a pool of applicants to test, evaluate, and use prior to a job offer. Students get to see the real-world and gain confidence in the skills they have learned as well as show what they can do in a real-world situation.

Keywords: *Curriculum Development, Health Informatics Program, Capstone Course*

1. INTRODUCTION

Are college graduates prepared for the business or the professional world they are readying themselves for prior to graduation? This is an interesting question because it hinges on student expectations of the career choices they are about to make and the expectations of future employers seeking students with the right "fit" as they search the applicant pool for just the right person. Universities are caught in-between because they justifiably teach a range of courses that give students a depth and breadth of knowledge across a broad domain of academic areas while developing academic majors that interest students and target career fields in the business domain. Students leave the university feeling that academia is not totally in-tune with the real-world; the real-world feels students are unprepared because even though a University education provides the necessary background and basic core materials, students are unrealistic in their expectations of what a real job in their chosen career might be like.

A well developed and thought-out Capstone course can be an essential bridge between students and the real world. Further, this bridge can serve as a bi-directional bridge whereby students can bring back knowledge of the real world to educate their network of fellow future alumni, faculty, and academic administrators responsible for developing course materials and providing resources to faculty. Employers become more intimately involved in seeing the quality of graduates that can be delivered and provide additional feedback to faculty to improve courses. This paper discusses the ongoing development of a capstone course in health informatics designed to integrate the knowledge students have gained in the classroom within an academic structure that places them in real world situation whereby they perform as real employees but also must reflect upon what they are learning via reporting mechanisms of how they are doing and what they are learning.

Future sections describe the Health Informatics program, the evolution and development of the capstone course, and how our students have performed. Conclusions are made and future improvement and recommendations made to avoid our mistakes and move forward with an outstanding program.

2. A HEALTH INFORMATICS PROGRAM

Health informatics is a specialized field of study dating from the 1970's that integrates the concepts of clinical informatics (a principle focus on patient care), and general health IS that focus on institutional administration. Targeted business needs range from the storage, retrieval, and interpretation of information in the context of patient care to the implementation and management of complex IS used in the administration of healthcare. The natural playing field of health informatics includes hospitals, physician networks and practice groups, third-party payers and regulatory agencies, industry suppliers such as pharmaceutical companies, biotechnology companies, and vendors of hospital equipment and medical supplies. Within the context of Health Informatics is a sub-field called “Clinical Informatics.” Clinical Informatics focuses on computer applications that address medical data (collection, analysis, representation of information) (Martz, Zhang, and Ozanich, 2007).

Martz, Zhang, and Ozanich (2007) discussed the development of a health informatics program. However, over the intervening years, political interest and business needs have increased the interest in applying and using IS with an analytical business purpose within the health informatics field has greatly expanded. These dynamic political and market conditions as well as global competition made us recognize the need to refine and redesign our curriculum. In this context, we found it necessary to create a capstone course that met different needs than what could be achieved in a work-study program, internship, or co-op.

The overall program still addresses both of the main areas found in the health informatics industry: clinical informatics and health IS. We still maintain that the distinguishing characteristic of our curriculum is the focus on the integration and interoperability of technology within the context of healthcare management and coordinating the complex communication needs within this same healthcare environment. The creation of a capstone course serves as a focal point across several disciplines needed to train our students and provide the healthcare industry with useful talent. Over the intervening years, our school of nursing has graduated to a college and their interest in technology has grown. Developing interdisciplinary bonds with the College of Informatics has allowed healthcare professionals to be exposed to Project Management, Databases, Strategic IS, as well as mundane topics like blogging and social networks. Likewise, IT professionals are exposed to medical vocabulary and medical technologies.

Interestingly, we found we needed to create a capstone course to focus student, faculty, and employers on the unique contributions of our program. Students needed to be placed in an environment where they could try out their IT wings. Students with a healthcare background need to be in that IT environment and learn to practice what they have been taught about technology. IT students need to be in a medical environment where they can use the medical language (vocabulary) they have learned and learn to work and apply their IT skills in that same unique medical environment. Employers are selected to participate in the program by assigning our students to jobs that compliment what they have learned rather than fulfill projects that have been on the back burner or just be somebody’s assistant for a few months.

3. CAPSTONE COURSE IN IS/HEALTH PROGRAMS

A capstone course is an upper division course that is offered towards the end of an academic program and integrated the knowledge students have accumulated in the previous courses (Henscheid 2000, UNL website). Capstone courses usually integrates a variety of learning styles, focuses on hands-on experience in the particular discipline, and prepare the graduates for transition to a chosen career. Capstone courses should allow the opportunity not only to work on a variety of projects that includes different skills, but also incorporate documentation for assessment of such training. Capstone courses should be taught and evaluated by faculty members responsible for the program (UNL at Kearney) and should be adjusted in order to optimize the learning experience of the students enrolled.

A survey of previous publications in offering capstone courses, bring to light many different approaches and designs of such courses. Capstone courses in Information Systems programs focus on different IT/IS skills that IS graduates should have for starting their career and understanding how these skills are important in a “real world” setting. A crucial aspect of the capstone course design is on deciding which topics and skills should take the major focus of the capstone course. A research paper written by Beachboard and Beard (2005) discuss about implementing a capstone course in Information System at undergraduate level. Authors suggest that a capstone course in an IS program is very beneficial and faculty need to come up with the right content in the capstone course, which is determined by what instructors believe is important to be included in the course discussion.

Another capstone course for undergraduate students shows very interesting results about what students think is important for them to learn in a capstone course. Brandon et al. (2002) discuss the development and implementation of a capstone course on Information Technology Management. The focus of the course is to create an opportunity for undergrad students to assess business problems, apply IS skills such as SAD, Database, etc, and include creativity and critical thinking, writing and presentation. The course design includes many activities such as: readings on recent trends in both business and IT development, analyzing business cases, written and verbal reporting, team project and a capstone project. The results of their study show that strongly technical focused students did not appreciated or understood the management side of the organization.

Understanding the organizational and management side of a company is very important for prospective graduates. That was the focus of a cross –functional capstone course of Master level students at the University of South Florida (Marshall et al, 2000). The design of their capstone course is a team-based approach, where students learn to think, improve, and integrate the skills they learnt previously in a two semester capstone course. In a creative way, students have to work on a project, and integrate different business function in order to accomplish it. The capstone course emphasizes the hands-on approach to solve business problems, which has offered more learning opportunities than a case-based learning approach.

Another successful capstone course for Master students in an IT program was designed to bring together different groups as participants of the capstone course. This MIS capstone course brought together faculty, students, and experienced IT professionals (Schwartz & Schwartz, 2006). The capstone course was designed to have lectures by both faculty and IT professionals, where faculty served as facilitators of the seminars. The seminars were an opportunity where students understood how the material they learned applies in the "real world" setting. At the same time, those seminars created the opportunity for business networking in the region. Students were able to connect with IT professionals and establish a business relationship. Students recognized the need to master different skills such as critical thinking, technical skills, and business skills in order to establish a successful IT career. The focus of this capstone course was to address 5 learning objectives: 1. Participate in discussions with members of business community in a small group setting, 2. Compare real world scenarios with a what students had learned before in the program, 3. Compare written reflections from class discussions with their own work experience, 4. Write a term paper critiquing their own work environment based on what they learned from the class, and 5. Make recommendation to their own work environment based on the knowledge they got from the seminars.

Another interesting design for a capstone course is to have an active learning approach. Astani (2006) suggests an active learning approach to understand Information Systems issues from the CIO perspective. In this capstone course approach, students need to tie together what IS literature suggests them as current issues in IS with what IS professionals suggest. Students identified the current IS issues from research papers published in IS journals, and rated those issues by interviewing local CIOs. The interviews and ratings of IS issues given by CIOs helped students to understand the current issues in Information Systems in their region.

Capstone courses in Health programs try to address and emphasize the hands-on skills as well, while students have to work individually or in teams to finish their projects. A capstone course founded by National Institutes of Health/National Institute of Aging (NIH/NIA) (RI5/AREA) focused on health and sociology issues. In this 4 hour-credit capstone course, students learned about diabetes and racial/ethnic disparities in managing this illness. Students had to work individually and in teams to work on a research project, create a team poster and a presentation.

Another health capstone course in pharmacotherapeutics was designed to integrate the previous knowledge from previous courses and to have hands-on in pharmacy practice (Cheng et al., 2002). This course included 3 hours of lecture, 1 hour recitation, and 1 hour group project per week. Students worked individually and in teams to develop drug formulary kits, learn medication utilization criteria, medical legal and marketing consultation. The topics included in this capstone were related to critical care, long term care and hospice care, patient management issues in ambulatory care, and providing pharmaceutical consultation. Even students performed relatively well in this course, the authors feel that the course needs more assessment in problem-solving skills in order to help students learn more on how to apply their pharmaceutical knowledge.

5. CAPSTONE COURSE IN HEALTH INFORMATICS PROGRAM

5.1 General Description and Learning Objectives

The capstone in Master of Health Informatics program is designed to offers students the opportunity to gain real world experience by working on projects in health care delivery organizations. Students are required to work independently on various applied projects to facilitate selection, implementation and optimal use of information technology in a healthcare delivery setting.

The focus of the NKU MHI program is applied rather than theoretical and the Capstone course provides students with an opportunity to apply learning in a real world situation and gain valuable on-the-job experience. In addition, the Capstone course provides an opportunity for students to network and begin building contacts in the local healthcare community.

As this capstone class is geared to field studies and active learning, there is no formal class schedule set at the beginning of class. The contact hours for the project evolve over the period of the project. There are formal evaluation meetings between student and capstone faculty conducted. These meetings are scheduled as needed based on the context of the particular capstone project.

As part of its accreditation process, NKU has chosen to emphasize the ways in which active learning occurs throughout the curriculum. The active learning component of the MHI Capstone is found in the participation by the student in hands-on projects demonstrating the application of their knowledge and skills obtained in the program.

Therefore, this capstone course is designed with several objectives to address the active learning component which satisfies the accreditation requirements, as well:

- ✓ Understand how concepts learned throughout the MHI program can be applied in a practical setting.
- ✓ Practice facilitation and leadership skills working directly in a health care provider organization or a healthcare business.
- ✓ Obtain direct knowledge of technology's impact on the daily workflow of a health care provider organization or healthcare business.

5.2 Evaluation Methods for the Capstone Course

Evaluating a capstone course is very important. The coordinating faculty has to facilitate the hands-on experience and contact students in regular basis to monitor their progress with the capstone course.
The course grade is based upon:

1. Active participation throughout the course. Students are expected to actively participate in scheduled meetings and to contribute to the discussion and learning of groups whether formed by other students or the client facility.
2. Completion of a semester activity plan based on the format provided.
3. Completion of monthly activity logs or status reports in the format provided.
4. Completion of a final experience paper covering their capstone experience.

Part of the evaluation for this course is the <u>Activity Plan</u>. Activity plan is the student's responsibility to create their semester activity plan with consultation from and approval by the client facility supervisor. This plan should indicate the planned activities for the semester along with goals and objectives. Monthly activity logs and the final paper should reflect this plan. As in a work situation, this plan may change over the course of the semester based on the needs of the student and the client organization. If this plan changes, it is the students responsibility to submit a modified plan with an explanation of why the changes occurred with the monthly log.

Another requirement for this course is <u>Monthly Logs</u>. Students should submit three monthly logs over the course of the semester. Each log should reflect the student's progress against the activity plan for the month covered.

The final requirement for the capstone course is the Experience Paper. The experience paper is an assignment which demonstrates how the student has applied the concepts learned throughout the MHI program in the healthcare delivery setting. The weekly log of activities will help students develop this paper.

6. DEVELOPING THE CAPSTONE COURSE AT NKU

A faculty coordinator was hired to better assist and monitors the capstone course in Health Informatics Program. The faculty coordinator started the new position in the fall semester 2009. Students in the MHI program were informed that they needed to take two Capstone semesters in their final year of the MHI program. Students are not allowed to self register for the Capstone classes, so the Fall 2009 students had registered with the Advisor covering both the Master of Business Informatics and the Master of Health Informatics program.

The Capstone experience is designed to be two semesters long. The student is registered for Capstone I for their first semester and Capstone II for their second semester. To provide students with an in-depth learning experience, every attempt is made to have students complete both Capstone I and Capstone II at the same host organization.

6.1 Student Characteristics

Most of the MHI students have considerable workplace experience. The student's work experiences, as well as the MHI program learning, influence the type of Capstone project suitable for that student. Most of the MHI students continue to work full-time while completing the graduate program.
Since most students work, as well as attend classes, the time each student is available for their Capstone working experience varies. That is, each student is available at a different time and day for the Capstone project.

Many students come to the Capstone without an idea of what types of experiences they could have through the Capstone. Some students approach the Capstone course with interests in mind that they would like to explore through the Capstone course. A few students approach the Capstone course with a project already selected. Student choice of Capstone course may be influenced by their MHI classes, their employment experience or what they perceive as advantages for employment in the local area.

6.2 Capstone Host Organizations and Projects

The MHI program Advisory Board has strong representation from the local healthcare community. This representation has provided Capstone opportunities for students at most of the major healthcare organizations in the area. Each host organization has different projects in process, has different rules for student internships and has different student on boarding process. In addition, health informatics covers a broad range of projects and activities needed to complete those projects.

For the Fall 2009 semester, four of the students were placed at large area medical centers, one student was placed at a medium sized area hospital and four students worked with a small ambulatory provider practice on electronic health record requirements definition and initial vendor screening.

Students sometimes complete their Capstone projects within their current place of employment. In this case, the Capstone project must be in a department different than their home department, the project must be outside their normal job duties and the time spent on the capstone must be outside their regular work hours. For example, an ICU Nurse in a large hospital might work on a system implementation project with the Hospital Information Technology Department as a Capstone course.

The university has a strong commitment to regional stewardship with public engagement as one of the university's core values. In addition to a learning opportunity, the Capstone projects provide an opportunity for students to augment resources at regional healthcare organizations. The approach has been that the project must be valuable for the student and for the host organization.

6.3 Student Placement

Placing each student in a suitable capstone is impacted by the variables discussed above. In summary, these are:

- Student employment background
- Extent of student work experience
- Student' interests
- Host organization current need
- Host organization student internship policies
- Host organization on boarding policy and process.

Each Capstone is different and each student must be individually placed for their Capstone. This placement can best be described as matchmaking.

1. Each student class record is reviewed to determine that they are eligible for the capstone; that they have taken the required classes and reached their final year of the program.
2. Each student is interviewed to determine their thoughts on and interests for their capstone. A resume is collected. The student's available time and day are gathered.
3. The current active list of host organizations is reviewed for possible projects. Contacts at organizations are called to see if there any new areas of need.
4. When a good match is found, the capstone is discussed with the student and the host organization contact.
5. If both the student and the organization contact agree, the student resume is sent to the host organization contact for review.
6. If the host organization contact is interested in the student, an interview is arranged.
7. If the student and the host organization contact are both agreeable to the capstone, the student is placed at that organization for their capstone. The organization specific on boarding process is started. The student and their host organization work out the student's schedule.

Student background and experience play a major role in the type of capstone project a student can be assigned to and in the willingness of a health care organization to accept a student. For example, a student with no healthcare or technology background might be placed in a first tier support role in a health care organization. This allows the student to gain broad practical experience on the needs of users in various departments and the types of issues those departments face day to day. A student with deep business and healthcare experience could be placed doing special projects for a hospital CIO. A student with hospital department management experience could be placed on a project to plan and organize the go live for a hospital wide integrated system. Each project builds on the student's educational experience and work background to expand the student's practical experience relative to health informatics.

The capstone class syllabus is written to provide students with some basic guidelines for the capstone project. A syllabus is provided electronically, each student is required to sign a form stating that they have read and understand the syllabus. This is done to insure students understand the rules of conduct for the capstone. The syllabus covers basic business conduct while on site at a host facility including appropriate dress and proper use of cell phones or pagers. Because of the unique nature of health care, the syllabus also covers two topics specific to working in a health care environment.

The first topic is a reminder of basic disease transmission precautions. Students are reminded to wash their hands frequently. Students are also asked not to go to the capstone site if they are ill or a member of their family is ill. These guidelines became especially important because of the concern over H1N1 transmission.

The second health care specific topic covers patient privacy and security. The syllabus reminds students that any host organization business information is not to be disclosed and that patient information is never disclosed in any venue or format. In addition, each student receives basic HIPAA privacy and security training during the host facility on boarding process.

7. RESULTS AND DISCUSSION

In the Fall of 2009, 9 students were enrolled in the Capstone courses; 5 in Capstone II and 4 in Capstone I. Using 1a through 1d to represent the Capstone I students and 2a through 2e to represent the Capstone II students, table 1 represents where these students fell in terms of healthcare and technology background. The student's background for this purpose is based on the student's working experience. This group of students is typical of the students that are enrolled in the program to date. Most of the students have a background in healthcare with a few who have backgrounds in technology and a few with no healthcare or technology background.

Table 1: Students fell in terms of healthcare and technology background.

Semester	Capstone I	Capstone II
Fall 2008	1	0
Spring 2009	4	1
Summer 2009	4	3
Fall 2009	4	5
Spring 2010	4	4

The capstone course was first offered in Spring 2008 semester. The number of students taking the capstone is consistent to four students each semester. Spring 2010 semester is still in progress. The authors of this study were able to collected data in the last two semesters of the capstone course (Fall 2009 and Spring 2010). There are no data related to the previous semesters of the Capstone course.

Another interesting piece of information is to investigate how many students are working in the projects with their current employers. In Fall 2009 3 out of 9 students (33% of the students) were working on the projects with their employers, versus 1 out of 8 students (12% of the students enrolled) taking the Capstone in Spring 2010.

Table 2: Students are working in the projects with their current employers

Semester	Cap I Total	Cap 1 Employer	Cap 2 Total	Cap 2 Employer
Fall 2009	4	1	5	2
Spring 2010	4	0	4	1

7.1 Assessment

The variation of capstone projects makes assessment of student progress against the learning objectives challenging. The original capstone learning assessment tool was an experience paper prepared at the end of the capstone. The student reflected on how they had applied concepts learned during their MHI courses to their capstone work, what they had learned about the culture of their host organization, how they practiced leadership skills in the organization and what they had learned about the impact of technological change on a health care organization. During the Fall 2009 semester, the faculty coordinator also began collecting monthly project logs from each student so the student's status on the capstone could be easily monitored.

7.2 Lessons Learned Fall 2009

Based on the experience during the Fall 2009 semester, the faculty coordinator worked on improving two areas for the Spring 2010 capstone. The focus was on facilitating the placement of students and revising the structure of the capstone classes.

Due to the complexities of placing each student, the time between determining a student needs to be placed and the student starting their capstone effort can be several weeks. To facilitate students starting work on their capstone the first week of class, the program starts the placement effort 90 days before the student's capstone semester. Students are contacted by email and asked to call the Program Coordinator if they plan to register for a capstone in the next semester. The student placement process is started as soon as contact is made. In the future, notifying the departments of capstone intentions 90 days in advance will be a catalog requirement. In addition, the department is planning to create a Capstone Committee to augment the program Advisory Board. The Capstone Committee will be made up of local health care organization middle management and will provide input on capstone development and placement. Starting with the spring 2010 semester, the faculty coordinator also revised the structure of the capstone class. This is intended to facilitate the learning assessment of each student. Students are required to complete four assessment activities:

1. A semester activity plan is submitted within 2 weeks of the beginning of the capstone. The student creates their semester activity plan with consultation from and approval by the host organization supervisor. The plan indicates planned activities for the semester along with goals and objectives. This plan is similar to an employee defining goals and objectives as part of a performance review process. This plan may change over the course of the semester based on the needs of the student and the host organization. If this plan changes, the student submits a modified plan with an explanation of why the changes occurred.
2. The student submits a monthly log each month of the semester. This similar to an employee submitting a status report. Each log should reflect the student's progress against the activity plan for the month covered.
3. At the end of the semester, the student submits an experience paper. The paper reflects on how the actual semester activities varied from the plan, how the student applied concepts learned during their MHI courses to their capstone work, what they had learned about the culture of their host organization, how they practiced leadership skills in the organization and what they had learned about the impact of technological change on a health care organization.

8. CONCLUSIONS

A successful capstone course can be mean success on so many levels. Capstone courses build student confidence in what they have learned. They interview better and increase their likelihood of being hired. Faculty receives feedback from employers and students that allows adapting and improvement of course materials on a regular basis. Employers get to see your students in action in a low risk way. Further, the word gets out to the community and to other students that students are being hired and are doing well. Successful students bring in more successful students. Your program grows and with growth comes resources. Successful firms hire more of your grads contributing to the alumni network and increase the likelihood of receiving resources in future years. We see the investment in a capstone course as both a short-term win but also an investment in our future.

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GLOBAL INSURANCE: A STUDY ON SELECT COUNTRIES

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ABSTRACT

An attempt has been made in this paper to study insurance density and penetration in terms of GDP and to find out the driving forces in select countries. This paper was prepared based on secondary data during the period 2001-2010. The main objective of the paper is to assess the real growth in the insurance sector in select countries viz. India, USA, Germany, Japan, China and India. It concludes that the global life insurance market has posted a consistent growth rates, with a slight deceleration in growth rate. It is proved that over a long period insurance industry will robust due to spreading awareness and raising income levels people in different countries at different levels.

1. INTRODUCTION

World insurance premium volume fell 1.1% on an inflation adjusted basis and Life insurance premium fell 2% while non-life insurance stagnated. However, premium growth in the emerging markets slowed but remained positive. In the emerging markets, life insurance premium growth in Latin America and the Caribbean was progressive. Similarly, growth was strongest in South & East Asia at 10 % led by China and India. The Brazilian life insurance market performed extremely well due to rise in population. Insurance market weakness is low demand for the product. However, despite recession, catastrophes, inflation , insurance business is expected to reach break even. Therefore, five countries are selected to study robust of the insurance industry.

OBJECTIVES OF THE STUDY

1. To study the role of Insurance regulatory bodies in select countries.
2. To study the insurance density and penetration in select countries.
3. To find out the driving forces of global insurance.

2. METHODOLOGY

This paper has been prepared based on secondary data. The secondary data was collected from Swiss re publications, World Bank reports, and from other published information. Three (3) countries namely USA, Germany and Japan were selected as developed insurance countries and two (2) countries viz.China and India were chosen as emerging insurance market based on global insurance index. The period of the study is from 2001 to 2010. It is inferred that insurance industry will penetrate into unknown area due to global changes and it is an analytical study.

GLOBAL INSURANCE:

The global insurance industry is one of the largest sectors of finance .The major insurance markets of the world are obviously the US, Europe, Japan, and South Korea. Emerging markets are found throughout Asia, specifically in India and China. The global economy is said to be growing as a whole with healthy growth rates hovering around 2% annually. Developing economies such as India and China are experiencing the fastest growth rates in GDP nearing almost 8%-10%. Inflation rates are also kept at manageable levels in these economies. Population has fallen over the year in most of the East European nations such as Russia in comparison to India where rise in population levels remains one of the highest at 1.4%. Population growth in China has been kept under control by the governments' one-child policy. But it should be noted that countries like China and Japan are facing a rapidly ageing population which is putting a pressure on the employable force of the country. The life insurance market is growing faster in the emerging markets due to rising incomes and a growing younger working population.

The insurance industry in America, particularly the life insurance industry, is considered a pillar of the economy with assets of $3.3 trillion in 2009. China has been the fastest-growing nation for the past quarter of a century with an average annual GDP growth rate above 10%. Chinese economy is the 4th largest in the world after the US, Japan and Germany, with a nominal GDP of US$3.42 trillion (2009) when measured in exchange-rate terms. China is the world's largest untapped insurance market. China has the potential to become one of the world's most significant insurance markets. Driven by a variety of demographic, economic and regulatory factors.

3. INSURANCE REGULATORY BODIES

INDIA : INSURANCE REGULATORY DEVELOPMENT AUTHORITY (IRDA) is an apex body to monitor and protect the policy holders interest and it specifies the creation and functioning of an Insurance Advisory Committee; It sets up strict guidelines on asset and liability management of the insurance companies along with solvency margin requirements. It creates required solvency margins based on mathematical reserves and sum at risk, and based upon value of assets. It monitors the details of insurance advertisement in physical and electronic media.

USA: National Association of Insurance Commissioners (NAIC): The main objective of the NAIC is supporting state insurance regulators as they protect consumers and maintain the financial stability of the insurance marketplace. It monitors uniform financial reporting by insurance companies and serves the needs of consumers and the industry. It aims to have new levels of expertise in data collection and delivery, and a commitment to even greater technological usage in the insurance industry.

GERMANY: The Federal Financial Supervisory Authority (Bundesanstalt fiir Finanzdienstleistungsaufsicht) Ba Fin: The BaFin has all the rights to discovers a crime or even the suspicion of financial crimes. It supervises insurance companies (including pension and burial funds), holding companies, security and pension funds. It main task is the supervision of banks, insurance companies and the trading of securities. BaFin aim is to increase customer protection and the reputation of the financial system.

JAPAN: Financial Services Agency (FSA): FSA protects policyholders' interests and their needs. It focuses on continuous improvement in the insurance business practices. FSA strengthens the disclosure requirements for financial firms, including insurers, with respect to their exposure to the securitization market. FSA has established the international supervisory colleges for Japan's three megabanks and Nomura providing the capital injection scheme, which can be used by banks that wish to maintain a sufficient capital base in order to sustain their lending;

CHINA: **China Insurance Regulatory Commission** (CIRC): CIRC formulates policies for developing the insurance industry, scrutinizes and approve the insurance companies, subsidiaries, holding companies. It also regularizes pricing of insurance schemes and creates fair competition in the industry. It creates regulatory framework for insurance industry to control advertise information, risk, forecast, and the supervision of insurance sector.

It can be observed that the regulatory bodies aim is to protect the policy holder’s interest and regulators are looking towards to penetrate insurance business into all the segments. The main role of the above regulatory bodies is to frame the guidelines to run the insurance business smoothly in their respective countries. Scrutinize and approval of insurance companies, subsidiaries, insurance holding companies etc, and supervise fair competition in industry. It was also observed that there is no international regulatory body existing till now. A new global apex body is to set up strict guidelines for assessment of asset and liability management of the insurance companies along with solvency margin requirements.

LEADING GLOBAL INSURANCE COMPANIES

Select countries ten global leading insurance companies are presented in chart I.

CHART 1: LEADING GLOBAL INSURANCE COMPANIES

S.no	INDIA	USA	GERMANY	JAPAN	CHINA
1	Corporation	MetLife	Allianz Vers.	Dai-ichi Insurance	China Life Insurance
2	Insurance	AIG	Axa-Colonia	Yasuda Insurance	Ping An Insurance (Group)
3	AVIVA Life	New York Life	DBV-Winterthur	Sumitomo	China Pacific Insurance
4	MetLife	TIAA-CREF	Munich Re	Family Insurance	New china life insurance
5	ING Vysya	Mutual Life	Gerling Group	Mitsui Insurance	Taikang Life Insurance co.
6	Financial	Lincoln	Aachenmunchener	Taiyo Insurance	American International
7	MAX New	Gen worth	DT. Herold Leben	Nippon Life	Huatai insurance Co., Ltd
8	Reliance	AFLAC	Victoria Leben	Daido Life	Taiping Life Insurance Co.,
9	Bajaj	Northwestern	Debeka Leben	Sony Life	Generali China Life
10	Bharti AXA Life	Principal Financial	R+V Allgemeine Vers. Insurance	JAPAN POST INSURANCE Co.,	PICC Property and Casualty co.

Source: Swiss re

Insurance Density (premium per capita) and **Insurance Penetration** (premium in percentage of GDP) which are important growth indicators are quite low in India. In the year 2009, Life Insurance Density in India was only US $ 12.9 as against the World Density of US $ 267.1. Similarly, Life Insurance Penetration in India was only 4 % (see table 1) as against World Penetration level of 4.59%. It has been observed that many of the smaller countries like Bahamas, Honking & South Africa etc achieved better growth rate in Life Insurance Density and penetration. Bahamas, a country with 0.3 million populations and US $56 billion GDP registered a Density of US $ 699.5 and Penetration of 4.38%. Further Australia and Switzerland have achieved high level of Density and Penetration. Insurance Density in Switzerland was US $ 3431.8 which was highest in the world. It was even better than USA (US $1657.5) with highest level of GDP in the World followed by Japan (US$ 3002.9) and UK (US $ 2617.7). Similarly Life Insurance penetration in Australia at 12.96% was the highest in the World followed by UK (8.62%), Japan (8.28%) and Taiwan (8.28%). The macroeconomic environment in 2009 across the globe was characterized by marginally slower economic growth and rising inflation driven by a steep increase in food and energy prices. Key interest rates diverged, but were generally low. In this backdrop worldwide insurance premium amounted to US Dollar 4061 billion in 2009 as against US Dollar 3723 billion in 2008. The growth in life insurance premium in 2009 was about 5.4 per cent. While the premium grew by 4.7 per cent in industrialized countries, it grew by 13.1 per cent in emerging market economies. In emerging markets, the growth in life insurance was 13.1 per cent during 2009 as against 21.1 per cent in 2008. The profitability of life business continued to improve in many countries as costs were cut. Guaranteed interest rates were reduced and profit participations was adjusted to reflect the low interest rate environment.

The Asia-pacific market is forecast to accelerate with an anticipated **CAGR** of 8.8% for the five-year period 2007-2012, which is expected to drive the market to a value of $1,278.9 billion by the end of 2012. Comparatively, the Japanese and Chinese markets reached USD 71.7 premium per capita and 2.2 % penetration to the GDP, similarly USD 2869.5 and 7.6% by Japan respectively. It was also observed that premium per capita is USD 1346.5 and penetration is 3 % in Germany. It may reach respective values of $578.2 billion and $201.8 billion in 2012.

It is also observed that the insurance penetration has been increasing from 2.2 % in 2001 to 4% in 2008 in India. In USA, insurance penetration reached highest ever up to 4.3 % in 2003 and gradually fallen to 4.1 % in 2008 due to various economic reasons. Similar trend was observed in Germany and Japan. In case of China, insurance density has surged from USD 12.2 in 2001 to USD 71.4 in 2008 and consistent steep was not noticed in terms of penetration.

The global life insurance market has posted consistent growth figures, with a slight deceleration in growth rate; this trend is expected to continue towards 2012. The global life insurance market generated total gross written premiums of $2,190 billion in 2009, representing a compound annual growth rate (CAGR) of 7% for the period spanning 2003-2009. In comparison, the Americas and

European markets grew with CAGRs of 5.2% and 8.5%, respectively, over the same period, to reach respective values of $641 billion and $919.8 billion in 2009. The life insurance segment was the market's most lucrative in 2009, generating total gross written premiums of $1,166.7 billion, equivalent to 53.3% of the market's overall value. The pension/annuity segment contributed gross written premiums of $1,023.3 billion in 2009, equating to 46.7% of the market's aggregate gross written premiums.

Table 1: GLOBAL LIFE INSURANCE BUSINESS VALUE (millions)

	INDIA			USA			GERMANY			JAPAN			CHINA		
	Popu la- tion	Dens ity	Pene - tratio	Popu la- tion	Dens ity	Penetr ation	Popu - lation	Dens ity	Penetr ation	Popu - lation	Dens ity	Pene - t	Popu- lation	Dens ity	Pen e- tratio
2001	1032	9.1	2.2	290	1602	4.4	78	674.	3.00	102.	2806	8.85	1279.8	12.2	1.34
2002	1039	11.7	2.6	291	1662	4.6	80	736.	3.06	110.	2783	8.64	1289.1	19.2	2.03
2003	1042	12.9	2.3	292	1657	4.38	81	930.	3.17	120.	3002	8.61	1290.4	25.1	2.30
2004	1075	15.7	2.5	293.	1692	4.22	82.4	1021	3.11	127.	3044	8.26	1298.8	27.3	2.21
2005	1093	18.3	2.5	295.	1753	4.14	82.4	1042	3.06	127.	2956	8.32	1306.3	30.5	1.78
2006	1111	33.2	4.1	298.	1789	4	82.4	1136	3.10	127.	2829	8.30	1314.0	34.1	1.70
2007	1129	40.4	4.0	301.	1922	4.2	82.4	1234	3.10	127.	2583	7.50	1321.9	44.2	1.80
2008	1148	41.2	4.0	303.	1900	4.1	82.4	1346	3.00	127.	2869	7.60	1330.0	71.7	2.20
TOT		182.	24.2		1397	34.04		8121	24.60		2287	66.0		264.	15.3

Source: World Bank reports

The performance of the market is forecast to decelerate, with an anticipated CAGR of 6.3% for the five-year period 2007-2012, which is expected to drive the market to a value of $2966.2 billion by the end of 2012. Comparatively, the Americas and European markets will grow with CAGRs of 5.8% and 3.6%, respectively, over the same period, to reach respective values of $849.8 billion and $1,100.3 billion in 2012.

The impact of the financial crisis and economic downturn has severely affected the insurance sector. Premium declined by an unprecedented magnitude in 2008 and 2009. In some countries insurance sector started to recover along with the improvement in financial markets. Sales of Equity-linked returns have declined due to the poor returns and continuing high volatility in the world stock markets. Nonetheless, this industry outlook is still clouded. The reasons could be a) Low investment yield, b)Need to rebuild capital, c) No recovery of new business, d) No financial flexibility and e) Some problems from regulatory bodies.

Driving forces of Global Insurance:

INDIA : Nearly 80 per cent of Indian population is without life insurance coverage. The penetration of life insurance products was 19 percent of the total 400 million of the insurable population. To attract these uncovered segment, the major driving forces are strong economic growth combined with a population of over a billion makes it one of the potentially largest markets in the future.

USA: The insurance industry in America, particularly the life insurance industry, is considered a pillar of the economy, there were 103 million people eligible for Social Security benefits at the end of 2015. Half of all full-time workers in commerce and industry in the United States are enrolled in retirement plans other than Social Security. Private pension plans are established by private agencies such as commercial, industrial, labor and service organizations, and nonprofit organizations. Although insurance companies may operate according to similar principles, the life insurance industry is hardly homogeneous.

GERMANY: Germany is home to some of the world's largest insurers, and a number of the key players in reinsurance. The German insurance market is the world's fifth largest market. . A distinctive feature of the German landscape is the high level of integration of insurance within the financial services industry.

JAPAN: All the financial institutions, banks, securities, and insurance companies have been segregated from each other. The entry of new firms was strictly regulated and leading to maintenance of the so-called '20 firms system'. The most remarkable change in the life insurance industry was brought about by the revision of the Insurance Industry Law in order to protect the policyholders of failed insurance companies.

CHINA: the variety of demographic, economic and regulatory factors and also demand from Commercial Property Segment, Guarantee rate reform and many others are driving forces and helping the local insurers. Chinese government has increased risk awareness among the people and in terms they are demanding for assured returns insurance products.

4. CONCLUSION

Insurance penetration has been increasing from 2.2 % in 2001 to 4% in 2008 in India. In USA, insurance penetration reached highest ever up to 4.3 % in 2003 and gradually fallen to 4.1 % in 2008 due to various economic reasons, similar trend was observed in Germany and Japan. In case of China, insurance density has surged from USD 12.2 in 2001 to USD 71.4 in 2008 and consistent steep was not noticed in terms of penetration. The global life insurance market has posted consistent growth figures, with a slight deceleration in growth rate; this trend is expected to continue towards 2012. It is suggested that World Insurance Body should be established and Standard Insurance products for social sector is to be developed.

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MINING A LUCRATIVE MARKET: GLOBAL OUTSOURCING AS A CATALYST FOR THE NON-OIL SECTOR OF THE NIGERIAN ECONOMY

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ABSTRACT

The rising cost of local production and labor in developed countries such as the United States, especially in the IT sector, has caused these countries to look to the developing world for solutions. India and a handful of developing countries have successfully positioned themselves as niche providers of outsourced labor in IT and are reaping huge benefits. As analysts continue to predict a growth in this type of outsourcing, the opportunity is ripe for other developing countries to tap into this enticingly lucrative and emerging market.Gartner Inc., a US research firm predicts that the outsourcing sector will continue to outperform the western European IT services market overall, growing by 3.1% in 2004, then rising steadily during the next three years to an annual increase of 8% in 2007. Moreover, as a result of global outsourcing trends, Gartner predicts that up to 25% of traditional IT jobs in many developed countries today will be situated in emerging markets by 2010.The move to offshore outsourcing has been fueled largely by increased pressure on companies in the developed world to generate while reducing costs. This paper will examine the opportunities and challenges of outsourcing in Nigeria, and make recommendations for possible policy implementations for the government.

Keywords: *Global Outsourcing, Nigerian Economy, Emerging Markets & New Partnership For Africa's Development (NEPAD)*

1. INTRODUCTION

The desire to be the drivers of their own destinies continues to resonate with the developing world. An indication of this emerging vision is the mandate given to the five initiating Heads of State (Algeria, Egypt, Nigeria, Senegal, South Africa) by the Organization of African Unity (OAU) to develop a structured socio-economic development framework for all of Africa. The New Partnership for Africa's Development (NEPAD) is a holistic, integrated sustainable development initiative for the economic and social reawakening of Africa prefixed on a constructive and symbiotic partnership between Africa and the developed world. It is a pledge by African leaders, based on a common vision and a firm and shared conviction that they have a pressing duty to eradicate poverty and to place their countries, both individually and collectively, on a path of sustainable growth and development and, while participating actively in the world economy and body politic. The 37th Summit of the OAU in July 2001 formally adopted the strategic framework document.

2. THE NEW PARTNERSHIP FOR AFRICA'S DEVELOPMENT

NEPAD is a cooperative effort between the Millennium Partnership for the African Recovery Program and the OMEGA Plan. NEPAD symbolizes a commitment by African leaders to rid Africa of poverty and eschew poverty from the continent, and to place it on a path of durable growth and development. NEPAD was founded on the belief that, in order to achieve development, Africa must have peace, security, democracy, and good governance.

NEPAD represents a commitment by African leaders to rid their continent of poverty and to place it on a path of lasting growth and development. Consequently, the primary objectives of NEPAD are:

a) To eradicate poverty;
b) To place African countries, both individually and collectively, on a path of sustainable growth and development;
c) To halt the marginalization of Africa in the globalization process and enhance its full and beneficial integration into the global economy;
d) To accelerate the empowerment of women

Alongside these primary objectives, NEPAD's stated principles are:

1. Good governance as a basic requirement for peace, security and sustainable political and socio-economic development
2. African ownership and leadership, as well as broad and deep participation by all sectors of society;
3. Anchoring the development of Africa on its resources and resourcefulness of its people;
4. Partnership between and amongst African peoples;
5. Acceleration of regional and continental integration;
6. Building the competitiveness of African countries and the continent;
7. Forging a new international partnership that changes the unequal relationship between Africa and the developed world; and
8. Ensuring that all Partnerships with NEPAD are linked to the Millenium Development Goals and other agreed upon development goals and targets.

Mindful of the fact that the stated objectives above cannot be immediately accomplished, NEPAD has designated some priorities:

a. Establishing the Conditions for Sustainable Development by ensuring

- Peace and security;
- Democracy and good, political, economic and corporate governance;
- Regional co-operation and integration;
- Capacity building.

b. Policy reforms and increased investment in the following priority sectors-

- Agriculture;
- Human development with a focus on health, education, science and technology and skills development;
- Building and improving infrastructure, including Information and Communication Technology (ICT), Energy, Transport, Water and Sanitation;
- Promoting diversification of production and exports, particularly with respect to agro-industries, manufacturing, mining, mineral beneficiation and tourism;
- Accelerating intra-African trade and improving access to markets of developed countries;
- The environment.

c. Mobilizing Resources by -

- Increasing domestic savings and investments;
- Improving management of public revenue and expenditure;
- Improving Africa's share in global trade;
- Attracting foreign direct investment; and
- Increasing capital flows through further debt reduction and increase ODA flows.

It is against this backdrop that this paper examines how Nigeria as one of the architects of NEPAD can transition from vision to implementation of some of the fine points of NEPAD's primary objectives. Ostensibly, the opportunities offered by global outsourcing in anchoring the development of Africa on its resources and the resourcefulness of its people is underscored.

This paper focuses on policies Nigeria can implement to become an outsource destination for global companies seeking affordable labor. It also examines some of the accommodations of outsourcing destinations such as Zambia have adopted to sustain the development of outsourcing.

In addressing this issue, the paper is divided into six parts. Following the Introduction in Part 1, Part 2 examines some core premises of the NEPAD Framework Document. Part 3 highlights the opportunities for global outsourcing in Nigeria Part 4 discusses potential challenges to outsourcing in Nigeria. Part 5 discusses some suggested policy considerations, and Part 6 concludes the paper.

3. OPPORTUNITIES FOR GLOBAL OUTSOURCING IN NIGERIA

Outsourcing is an arrangement in which one company provides services for another company that could have been provided in-house, in order to cut costs. (Adeleye et al., 2004) It is a trend that is becoming more common in information technology and other industries for services that have been usually regarded as intrinsic to managing a business such as customer services, helpdesk, document digitalization and management, web design, programming and hosting, biometric and security services, supply chain management, data centre services, medical transcription and coding, architectural drafting, among others. (Lacity et al., 1993; Encyclopedia of Business)

According to some estimates, India controls approximately 44% of the global outsourcing market of software and back-office services. India has become the host outsourcing country of choice for many U.S. companies. This is due to the economic advantages and the large supply of a well-educated, highly motivated, competent, productive, and English-speaking workforce.

Offshore outsourcing of U.S. business processes and information technology to India began in the late 1980s. General Electric (GE) was one of the first American companies to take advantage of outsourcing opportunities in India. In September 1989, Jack Welch, Chairman and CEO at the time, met with the Chief Technical Advisor to then Prime Minister Rajiv Gandhi, who convinced Mr. Welch of the opportunities for GE in India. Within a year, GE formed a joint venture with Wipro Ltd., to develop and market medical equipment in India. (Earl, 1996)

India’s foreign business opportunities were limited until the Indian government began to open up its economy and to dismantle tariff and export controls in 1991. Dr. Manmohan Singh, then India’s Finance Minister began opening the Indian economy for foreign investment and introducing competition into the Indian telecom industry to bring down prices. To attract more foreign investment, Dr. Singh, an economist, made it much easier for companies to set up satellite downlink stations. Prior to that time, if a foreign company had its own satellite downlink, an Indian government official was required to oversee it and had the right to examine all data going in or out of the country. With the newly relaxed rules instituted by Dr. Singh, satellite downlink stations were established in Bangalore. Foreign companies could then avoid the unpredictable Indian phone system and connect with their home bases in America and other distant locations. (Kanello, 2005)

Three assets make Nigeria a natural choice for Global outsourcing:

The Nigerian economy which is the most populous in Africa with an official population figure of 128 million and Gross Domestic Product of $72.1 billion is the second largest economy in Africa.

Chief among the strengths of Nigeria, is the fact that English is really strong. "Language barrier is an issue" in cross-border transactions.

As the outsourcing market in Asia gets saturated in the near future, as labor costs go up in those countries, the world will turn its attention to Africa fully as the next destination for outsourcing.

4. CHALLENGES OF OUTSOURCING IN NIGERIA

Of course, there are challenges to positioning Nigeria as ripe for global outsourcing.
Nigeria remains burdened by severe disadvantages, not the least of which is a terrible image. Big business in the West and the United States don't even have Africa on the map when they consider outsourcing locations.

There are questions about the stability of the political process, which may deter investors from moving to the region. Political instability is currently impacting India's offshore outsourcing niche as well. (Krishna et al; 2004)

Nigeria does not presently have the needed communications infrastructure to take advantage of the opportunities that exist in global outsourcing. The legislative environment can also hinder foreign involvement.

The language issue also plays a role too. While countries like South Africa have a strong English-speaking workforce, and Francophone Africa with its French-speaking population is attractive to many European countries, Nigeria has to boast of a sizable English-speaking workforce to compete.

While Africa is wrongly perceived as an unattractive region for investment, Africa supplies the highest rate of return on investments, though it only gets a small proportion of the total investments. (Sommer, 2003)

Surprisingly, wage competitiveness is a problem. Although Africa is the world's poorest region on average, wages in the formal economy generally exceed those paid in China and India, where government keeps basic food, housing, and transport costs relatively low through subsidies and controls. In urban Africa, costs - for food and transport in particular - are relatively high, which forces wages up. The supply of African professionals and skilled workers, meanwhile, is tight, shortages also drive up wages. Indeed, an Indian software programmer typically earns less than a comparable African programmer. Even wages for routine data-entry tasks in Africa are usually no less than those paid in south Asia. (Pavlia,1995 & 2003)

5. POLICY CONSIDERATIONS

Despite the endemic strikes and shutdowns of Nigeria's Ivory Towers, they have a very crucial role to play in fostering and positively reinforcing the Nigerian Knowledge culture. These institutions are burdened with providing the fundamentals of the intellectual and professional sub-culture upon which the dynamism of Nigerian IT creativity will thrive. The practical aspects of Nigeria's IT professionals do not have to be carried out within the confines of our decrepit universities however. IT is mainly a profession of self-education. The foundation is laid in college, yes, but the practicality and experience is gained in the field and by self-education and enlightenment. With the active participation of a determined government and committed private sector, the educational sector churns out major players in this revolution. (Wilcox, 2000) African leaders have been slow to realize that they must woo foreign corporations with special services, training programs for workers, and even subsidized offices. Asian countries attract many jobs by creating "industrial parks," with more reliable services, including ultra-reliable communications networks, offered at competitive prices. By restructuring secondary schools and universities to train graduates with skills demanded by multinational corporations, Asian countries also create more competitive workforces. Nigeria should also consider setting up investment promotion agencies whose primary objectives are:

- Image building
- Investment generation
- Innovative capability

Image building is prioritized because of the critical need to identify and articulate a brand image that captures the essence of what Nigeria is capable of. In such a campaign, Nigeria’s story should be told from the perspective of or successes in a consistent and noisy manner so as to drown out our current associations with business scams.

There is wide agreement that Nigeria needs American and other foreign investment capital in many critical areas. The realization that government cannot do everything is already evident in the telecommunications industry. Nevertheless, there is still a lot of work to be done in all areas of our non-oil economy. Foreign investment can be attracted only to the direct extent that we are able to sustain reinvestment over a long period

6. CONCLUSION

If Nigeria is to tap into this potential gold-mine, government and industry need to work together to create an environment that fosters an interest from companies in the US and Europe. So as not to reinvent the wheel, Nigeria can learn from the Philippine government which has enacted several laws that grant tax holidays and other incentives to multinational companies that wish to set up outsourcing operations in the Philippines. Nigerian intelligentsia in the West and United States can participate in this effort to repatriate key skills and support necessary for the success of this venture. Government's involvement is very important, but needs to be more of a partnership. The private sector should endeavor to partner with government to create an enabling environment. Together they can adapt to the changing needs of the sector. The private sector needs to create interest in government to get involved in such public-private partnerships.

It is also vital that Nigeria nurture tertiary education, customizing tertiary education courses to capture the market and produce the needed skills to be attractive to foreign investors. Nigeria's relatively high literacy rate, and the added advantage of using English as the lingua franca make her a fertile environment for the cultivation of global outsourcing.

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THE EFFECTS OF ECONOMIC CRISIS UPON EMPLOYMENT AND UNEMPLOYMENT IN CLUJ COUNTY, ROMANIA

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ABSTRACT

Unemployment is nowadays one of the malfunctions that affect, to different extent, all countries. As a consequence, the issue of keeping labour force employed has always been one of the main interests of the macroeconomic analysis. The importance of having a job is analysed in the economic literature from several points of view (Tait et al.'s, 1989; Feather, 1990; Furnham, 1991; Kossek & Ozeki, 1998; Iverson & Maguire, 2000; Parasuraman & Simmers, 2001; Dockery, 2003), such as: quality of life, people's ability to strike the right balance between work and family life, the impact of work deprivation or unemployment on the individual, both psychically and from the point of view of life conditions. The present paper aims to analyze which are the negative effects that the actual economic crisis has upon employment and unemployment in Cluj County. For this analyze data were collected based on questionnaires and were processed with SPSS 11.0 software.

Keywords: *employment, unemployment, economic crisis*

1. EMPLOYMENT AND UNEMPLOYMENT IN POST-COMMUNIST ROMANIA

The matter of labor force employment constitutes one of the major concerns of macroeconomic analysis. Achieving a high level of employment needs to be one of the priority objectives of the governments' and labor unions' policies of each country. The problem of labor force employment is extremely difficult if we have to take into consideration the fact that each individual has to be employed, in order to be able to ensure the vital elements for his/her private and socio-professional life.

A high level of unemployment represents both an economical and a social problem. From the economical perspective, unemployment is a waste of precious resources, leading to the diminishing of production and incomes. From the social point view, it is the cause of some deep sufferings, regarding the fact that the unemployed struggle to survive on behalf of their low incomes. Having in view the negative consequences of unemployment and the importance for each individual, able to work, to have a job we analysed the state of labour force employment and unemployment in Romania in order to assess the extent and evolution of this issue at the present time.

In 1990, in our country there were 8156 thousands employees and 3577 thousands pensioners, the number of unemployed persons being almost zero, as during the communist period the unemployment term existed only in theory.

After the abolition of communist regime, amid an instable economic environment, the number of employees decrease with 1.7 millions and the number of unemployed persons reached 1.22 millions. Certainly, the increase of the unemployed persons would have been even higher if there would not be an increase in the number of pensioners with 1.34 millions, reaching 4.9 millions.

After the significant economical decline during the period 1990-1992, there was registered a period of economical development. Only in two years (1995 and 1996), the number of unemployed decreased with 50% and in 1996 there were 658 thousand unemployed persons, the unemployed rate being 6.6%. It's true that during this time, the number of pensions increased further on (+ 435 thousand persons) and the number of employees decreased with 500 thousand.
Unfortunately, after 1996 followed a period of negative economic increase. Thus, in 1999 the number of unemployed increased at 1.1 millions, the number of employees continues to decrease, being 4.76 millions, and the number of pensioners increased to 5.9 millions. In 1999, GDP represented only 75.8% from the GDP level registered in 1989. It is very important to notice that in 1998, the number on pensions was higher than the number of employees and this fact has a negative consequence upon the sustainability of national pensions system.

At first sight, the period 2000-2008 represented from the GDP point of view, the best period of Romania in all its history. But if we go into details, thinks are not so good. It is true that in 2007 the number of unemployed was with 1.1 millions lower than in 1999, the unemployment rate being at its „normal" level of 4%. But the number of employees increased only with 262 thousand persons, which means that at least a few thousand unemployed persons „have lost" especially that the number on pensions decreased with 168 thousand persons, meaning that the unemployed did not retire. The only one alternative was emigration.

The economic increase registered during the time span 2000-2008 should lead to an increase in the number on employees, but this think did not happen. The activity rate, respectively the proportion between active population and total population, decrease continuously, from 50% in 1992 to 43% in 2000 and to 42.2% in 2007. In 2008, the number of unemployed was 625 thousand persons and the unemployment rate was 6.9%.

2. EMPLOYMENT AND UNEMPLOYMENT IN CLUJ COUNTY

In December 2009, Daniel Don, manager of AJOFM Cluj, said that from two months the institution could not afford to pay his agencies because all the money is used for the payment of unemployment benefits. The bills for electricity, for telephone, heating etc. have to wait, and the manager sent letters to principal suppliers requesting payment delays. How did they get here? At the beginning of 2009, the unemployment assurance budget was considered „the star of Romanian taxation system". Collecting only 1% from total salaries paid in economy, the unemployment gathered huge amounts, from which could finance the active measures, as professional training courses.

In 2008, AJOFM collected 6.5 millions lei and had expenses of 0.9 millions with the unemployed persons. In 2009, there were registered 13.500 unemployed persons plus the persons being in technical unemployed, and the agency collected 3.5 millions compared with the necessary of 9 millions lei. As a consequences, AJOFM concentrated its efforts towards the payment of most expensive obligations – unemployment benefits (passive measures), and active measures were forgotten. The agency did not pay the subventions for the new work places and this fact does not help the companies to exceed the economic crisis.

In October 2008, the unemployment rate in Cluj county was 2.8% and this registered a decreased as compared with 2007, when was 3.4%. The massive lay-off made in 2009 (and which continue in 2010) have changed dramatic the situation. The lay- off are the consequences of economic crisis, which affect the companies from Cluj County.

Some companies work for export and reduce their orders, because the foreign companies reduce the contracts with their suppliers. Cluj is the third county (after Mureş and Iaşi) regarding the number of unemployed persons. The most affected companies from Cluj County are those from the following field: textile industry, leather goods, pulp, wood and wooden products manufacturing, industrial production, food industry, services and construction.

During the period September – December 2008, there were registered many lay-off: Nokia Jucu sent in tehnical unemployment 104 employees; Someş Dej lay-off 300 employees; Napolact Huedin close down, being lay-off 100 persons; Vlădeasa Cluj close down, dismissing 234 employees; Com Faschion dismissed 66 persons; Turda Toscana lay-off 105 employees; Sticla Turda - 160 persons; Cesom Turda – 160 persons; Hidroconstrucţia – 200, and CCH Dej – 450 employees. Collective redundancies and dismissals continue in 2009 and 2010. Bechtel sent in technical unemployment 200 persons at the beginning of 2009, the number of employees being 2300 persons. Although, the Romanian authorities request the company to asphalt 25 km of motor road in 2009, there was realized only 7 km. In 2010, Bechtel made savings "atv the back of" AJOFM Cluj, dismissing 200 employees from the total of 2300.
The candy company from Cluj-Napoca, which Perfelli Van Melle wanted to orientate towards exports, lays-off 168 persons and continues to activate on the Romanian market with the help of an importer and local distributor.

3. WHAT DOES THE COMPANY FROM CLUJ COUNTY THINK ABOUT THE CRISIS AND THE EFFECTS ON EMPLOYMENT AND UNEMPLOYMENT?

We illustrated a few examples above in order to continue with the negative effects that the actual economic crisis has upon employment and unemployment in Cluj County. Starting with these conclusions, we realized a research through questionnaire at the companies from Cluj County, in order to find out their opinions about the consequences of the current economic crisis and their future perspectives. From those 300 questionnaires sent, we received 286, which mean a share of 95.3%. The data confirm the assumption that the crisis is far away of being finished and in the future we can expect to another lay-off and this aspect will affect negative the employment level.

Current situation

The impact of the current economic and financial crisis on firm's activity is presented in the table below:

Table no. 1: The impact of economic crisis on firm's activity

How do you appreciate the negative impact of financial crisis on your firm's activity?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	high	73	25.5	26.2	26.2
	medium	153	53.5	54.8	81.0
	low	48	16.8	17.2	98.2
	without negative effects	5	1.7	1.8	100.0
	Total	279	97.6	100.0	
Missing	System	7	2.4		
Total		286	100.0		

Source: own calculation based on questionnaire data

Over 80% of the surveyed companies reported to be affected by the current financial crisis, especially small and medium enterprises. The main consequences of the crisis on firm's activity are represented by: decrease of domestic sales (29.0%), unstable and risky economic environment (22.8%), unavailability of financing resources (17.8%), costs increase (12.4%), reduction activities of local competitors (9.8%), decrease of external sales (6.1%) and drop in company shares (2.1%).
We notice that current financial crisis has affected mostly the companies sales, which have dropped both on domestic and foreign markets, due to the decrease of consumers demand. There than follows the existence of an unstable and risky economic environment, unavailability of financing resources and costs increase.
The main actions that firms intend to do in the future in order to face the current economic crisis are represented by: a more careful accounting of expenditures to reduce the costs (21.1%); reorganization of work to increase work efficiency (13.1%); removing or postponing investment (11.1%); introduction of new price policies (9.7%); looking for financial support (6.1%).

Future perspectives

In the final part of the questionnaire we wanted to find out which is the perception of employers regarding the future activities of the company, the changes that will appear on consumers demand, on exports, on investments and the impact of these factors on the companies' level of employment.

Table no. 2 on next page shows perception of employers regarding the changes that will occur in the companies' activity.

Analyzing the table no. 2, we found that over 80% of employers expected that activity of their business to improve or remain the same. We believe that this can be achieved through better management of costs, more efficient use of working time and the increase of work productivity.

Table- 2:

How do you expect to evolve your firm's activity over six months?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	better	101	35.3	36.1	36.1
	the same	131	45.8	46.8	82.9
	worse	48	16.8	17.1	100.0
	Total	280	97.9	100.0	
Missing	System	6	2.1		
Total		286	100.0		

Source: own calculation based on questionnaire data

If we take into consideration the perception of employers regarding the changes in consumer demand, 29% of employers are expected to increase, 39.6% to be the same and 31.4% to decrease. We consider that in order to become and remain competitive, Romanian's companies have to establish a coherent and viable strategy, leading to the increase of efficiency, improve the quality and image of their products, reduce the production costs. For this, firms should be more involve in research and development, acquire new technologies and improve their management practices, because as Dan Coandă said, Sales Manager of the Brother Romania Company: "firms that will invest in equipment and technology with high productivity, have higher chances to remain on the market for a long period of time".

In order to benefit for certain advantages in comparison with other countries, Romanian companies must focus on creating their own brands, on quality and rapidly in production and delivery of products and less on low cost with employees. Also, they must focus on short series production, namely to a rapid fashion, because large orders that not depend on quick deliveries are transferred to other countries, which have cheaper labor force (for example, Chine for clothing and textile).
In the past, when many companies based their activities mainly on production in the lohn system, the future of the business was dependent on the client, market, customs duties, while today, in order to survive on the market and to cope with foreign competition, Romanian companies need to work out viable long term strategies, to invest in new technologies, to focus on productivity, quality and flexibility.

As regards the investments they will realize in their companies, 36% of them consider that the level on investments will decrease in the next year, while 42% of employers expect to be the same. This seems normal, only 24% from the investigated companies expect to obtain profit in the next year.
The way in which these changes will affect the number and structure of the staff in the manufacturing industry is revealed by the employers' answers to the question – *What impact will these changes have on the number and structure of the staff?* But we must not forget that the present financial standing of the companies is reflected also in their expectations regarding the evolution of the number of employees working for them.

Table no. 3: The employers' expectations regarding the evolution of the number of employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	will increase	33	11.5	11.6	11.6
	will be the same	165	57.7	58.1	69.7
	will decrease	86	30.1	30.3	100.0
	Total	284	99.3	100.0	
Missing	System	2	.7		
Total		286	100.0		

Source: own calculation based on questionnaire data

More than one third of the employers expect the number of their employees to decrease in the future, while only 11.6% expect an increase on staff. Analysis of firms per NACE sections shows that most firms that expect a cut down on staff in the future are those in the wood industry (NACE code 16), metallurgy (NACE code 24), metallic construction (NACE code 25), machinery and equipment (NACE code 28), constructions (NACE code 41). We must mention however that a significant number of companies (58.1%) believe that the number of jobs in the company will remain the same. The companies that expect to increase their level of employment are those from waste recovering industry (NACE code 38), warehousing and support activities for transportation (NACE code 52), security and investigation activities (NACE code 80).

We may notice that in the next years the employers demand will be orientated towards persons with a medium level of qualification (55.6 from the total number of the respond employers require this level) and high level of qualification (39.2%). Only 5.3% from the total number of respondent employers will need in the future persons with a low level of qualification.

The same orientation tendencies of the employers' demand from low qualification towards medium and high ones are present in other countries too, being mentioned in many studies. Thus, Robert Stehrer (2004) made some future scenarios regarding the employment and labor demand evolution after the labor force level of education and qualification, during the time span 2002-2012. According to Stehrer, in the next years, in all EU member states the labor demand for workers with a low level of qualification will decrease and will increase the demand for workers with a high level of qualification. In Romania, during the time span 2002-2012, there is anticipated that almost 35% of the employees with low level of qualification will lose their jobs, while the demand for persons with high level of qualification will increase by 3%. (Stehrer, 2004). Also, in the paper "*The Scottish Labour Market 2003*", there is mentioned the fact that there is a long-term shift in the distribution of employment towards higher skilled occupations and away from low skilled employment.

4. CONCLUSIONS

Over 80% of the surveyed companies reported to be affected by the current financial crisis, especially small and medium enterprises. The main consequences of the crisis on firm's activity are represented by: decrease of domestic sales, unavailability of financing resources, unstable and risky economic environment.
More than one third of the employers expect the number of their employees to decrease in the future, while only 11.6% expect an increase on staff. We may notice that in the next years the employers demand will be orientated towards persons with a medium level of qualification and high level of qualification.
The main actions that firms intend to do in the future in order to face the current economic crisis are represented by: a more careful accounting of expenditures to reduce the costs; reorganization of work to increase work efficiency; removing or postponing investment.

ACKNOWLEDGEMENT:

The authors wishe to thanks for the financial support provided from program:
Investing in people! Ph.D. scholarship, Project co-financed by the Sectoral Operational Program for Human Resources Development 2007 - 2013
Priority Axis 1. "Education and training in support for growth and development of a knowledge based society"
Key area of intervention 1.5: Doctoral and post-doctoral programs in support of research.
Contract **POSDRU/88/1.5/S/60185 –** "Innovative Doctoral Studies in a Knowledge Based Society", Babeş-Bolyai University, Cluj-Napoca, Romania

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CORE VERSUS PERIPHERAL COMPONENTS OF THE FRANCHISE FORMAT

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ABSTRACT

Kaufmann and Eroglu (1998) introduced the distinction between the core and peripheral components of the franchise format. We address the issue of the efficient scope of the business format in franchising by adopting an incomplete contracting perspective. It entails addressing the identity of the party creating the highest value when allowed to decide regarding the peripheral components. It is established that the set of core components of the business format is larger, i.e. the franchisor has the right to decide regarding the peripheral components, when franchises are older, the entry fee is lower, the yearly fee is higher, and the franchise specific training is lower.

Keywords: *Franchising; Business Format; Incomplete Contracting, Scope.*

'Of the many types of management issues faced by franchisors, perhaps one of the most difficult is defining the appropriate boundaries of their format, i.e., maintaining the required level of uniformity for the system to obtain economies of scale, while avoiding the danger of stifling efficient local market adaptation.'

Kaufmann and Eroglu, 1998

1. INTRODUCTION

There are two types of franchising: product franchising and business format franchising. Product franchising is an agreement in which one business grants another business business the right to distribute its products or services. Business format franchising is an agreement in which the franchisor allows the franchisee to open a retail store, using the franchisor's business format. The business format may specify support systems, equipment, and detailed operating instructions. Kaufmann and Eroglu (1998, p70) identify four format components that constitute the business format in a franchise chain: product/service deliverables, benefit communicators, system identifiers, and format facilitators. These components differ in importance, which is reflected by them in the distinction between core, like the trademark or the logo, and peripheral components, like the music or store outlay, of a business format. Core elements are characterized as 'those whose standardization must be enforced across all franchisees' (p72). Core elements are not to be adapted, while peripheral elements can be modified locally in order to establish an improved product or service/market fit. In this article we will address the observation by Kaufmann and Eroglu (1998, p72) that 'Sometimes the same element could be regarded as core for one format and peripheral for another'. They claim that this is determined by the standardization versus adaptation tension. Drivers of standardization are cost minimization, image consistency, and introduction of new product/service deliverables, while inhibitors are market differences, maturation effects, and franchisee motivation. In this article we will stay close to economic organization theory (Hendrikse, 2003). It highlights the effect of incentives, the non-contractibility and learning on the efficient allocation of the components rights to either the franchisor or the franchisee. If the rights regarding an element are allocated to the franchisor (franchisee), then this element is a core (peripheral) component of the business format.This article formulates two contributions. First, we conceptualize in section 2 the scope of a business format, and distinguish between core and peripheral components of the business format. Second, we explain the appropriate boundaries of a business format in section 3, and develop three propositions. Section 4 concludes.

2. CONTRACT THEORY

We provide a brief overview of the history of contract theory in order to understand and position on the one hand the distinction between specific and residual decision rights in contracts, and on the other hand to conceptualize the difference between core and peripheral components. Three types of contracts can be distinguished. First, complete contingent contracts were introduced Arrow and Debreu (Debreu, 1959) in their general equilibrium model. These contracts can be made contingent on all the relevant contingencies because all relevant information is known to all parties and costlessly available. Second, complete contracts started to be analyzed in the late 1960s and 1970s. The introduction of private information and hidden actions prevents that contracts can be based on all relevant contingencies. However, contracts are still complete because they specify an action for each information set, i.e. complete contracts are made contingent on all the observable information. Again the completeness is due to the assumption that writing contracts is costless. Finally, Grossman and Hart (1986) started the analysis of incomplete contracts. Incomplete contracts are to be positioned at the other extreme in terms of the costs of writing contracts because it is assumed that writing contracts is prohibitively expensive. A contract specifies only who has the right to decide when a certain contingency arises.

Set theory is used to distinguish these different contracts even further. A set of states, or aspects of a problem, can be divided in subsets in various ways. Dividing a set into subsets is called partitioning. The relationship between partitioning and the three contract types is as follows. A problem governed by a complete contingent contract entails that each state in the state space, i.e. the set of states, is a subset after the partitioning and has an action assigned to every subset. It specifies a complete contingent plan of action, i.e. an action is delineated for every possible history which might emerge. A complete contingent contract consists therefore only of specific rights because an action is assigned to every subset. Complete contracts differ from complete contingent contracts only in some subsets consisting of more than one state due to either private information of hidden actions. Again, there are only specific rights, delineating one action for each information set. An incomplete contract in the model of Grossman and Hart (1986) does not partition the state space at all and it does not specify a course of action. It specifies only the identity of the party being allowed to decide when something has to be decided. An incomplete does not have any specific rights. It consists only of a residual right specifying the person with decision power.

Actual contracts consist usually of specific as well as residual rights, i.e. some contractual clauses are specified, while the remaining contingencies are covered by assigning somebody the residual right(s). For example, specific rights in franchising are the contractual clauses specifying the entry fee and the yearly fee, while ‘ownership of the assets gives the franchisee the right to make decisions about their use.’ (Lutz , 1995, 113). There are various reasons for residual rights. Examples are a lack of insight of the people involved, the costs of writing contractual clauses and determining the optimal course of action, measurement costs (Barzel, 1982), the impreciseness of language, and so on.

3. DETERMINANTS OF HARDNESS IN FRANCHISING

There are two ways to identify the factors determining the hardness of a contract. First, a certain theoretical perspective may be chosen and the implications for the hardness of contracts may be distilled. The other approach is to have the available data guide the formulation of hypotheses. We take the former approach. We will develop a proposition regarding the relationship between the age of a franchise and the set of core components, a proposition regarding the relationship between the entry / yearly fee and the set of core components, and a proposition regarding the relationship between the amount of training and the set of core components.

3.1 Age

In franchising, franchisors develop contract design capabilities through interorganizational learning (Argyres and Mayer, 2007). Prior relationships may allow for the design of more complete contracts because the partners learn what they need to specify in contracts thereby developing contract design capabilities (Mayer and Argyres, 2004; Ryall and Sampson, 2006 and 2009; Argyres et al., 2007; Bolton and Faure-Grimaud 2009). The older the franchise company, the more the franchisor learns about the application of system-specific and the local market knowlege, and the higher are the franchisor’s contract design capabilities, i. e. the capabilities to specify more refined contract terms and hence to design more complete contracts. Firm-specific capabilities result in competitive advantage through efficient knowledge exploitation and knowledge creation (Teece et al., 1997; Helfat et al., 2007). We summarize these arguments in proposition 1.

Proposition 1: Older franchises have a business format with a larger set of core components.

3.2 Entry and yearly fee

According to the agency theory (e.g. Lafontaine, 1992), asymmetric information and opportunism result in high agency costs. The franchisor has three possibilities to reduce agency costs: change the terms of the contract, generate additional information, and change the choice possibilities (Hendrikse, 2003). We will focus on the impact of changing the terms of the contract. The terms of a feasible contract have to satisfy the participation constraint and the incentive compatibility constraint. The participation constraint entails that the franchisee has to earn at least as much as his outside opportunity. The entry fee and the annual fee are inversely related according to the participation contraint, i.e. a higher entry fee will go together with a lower annual fee in order to keep the value of the franchise arrangement equal to the value of the outside opportunity. The incentive compatibility constraint requires that it is financially attractive for the franchisee to choose actions which are also attractive for the franchisor. It determines the intensity of incentives. A lower annual fee entails stronger incentives for the franchisee to bring the outlet to value.
Given that there are costs associated with monitoring and control, these costs suggest the value of substituting incentives for control. So, stronger incentives are expected to go together will less control and more decision rights for the franchisee, i.e. business formats with a smaller set of core components are expected when incentives for the franchisee are stronger. We summarize this argument in the propositions 2A and 2B.
Proposition 2A: Franchises have a business format with a larger set of core components when the entry fee is lower.
Proposition 2B: Franchises have a business format with a larger set of core components when the yearly fee is higher.

3.3 Training

Based on indicators used in earlier studies (e.g. Lafontaine 1992; Fladmoe-Lindquist and Jaque 1995), training days are a proxy for the franchisor's intangible system-specific know-how. As argued by Simonin (1999), the higher the degree of intangibility, the more tacit (less contractible) are the system-specific assets, and the more personal knowledge transfer methods are used, such as meetings, coaching and training. According to the property rights approach, intangibility (non-contractibility) of knowledge assets results in allocating residual decision rights to the network partners (Grossman and Hart 1986; ; Baker et al. 2008; Hendrikse and Windsperger 2009; Lerner and Malmendier 2010). The relationship between the intangibility of system-specific assets and the degree of contractual completeness can be stated as follows: The higher the intangibility of the system-specific assets, the greater is the difficulty for the franchisor to explicitly specify the use of system-specific know-how in the contract, and hence the lower is the degree of contractual completeness. This is summarized in proposition 3.
Proposition 3: Franchises have a business format with a larger set of core components when franchise specific training is lower.

4. CONCLUSION

This paper intends to contribute to the understanding of the boundaries of the business format. We developed the concept of incompleteness of contracts and formulated propositions regarding the age, the level of the entry/yearly fee, and training on the scope of the business format. Much remains to be done, empirically as well as theoretically. First, empirical research has to shed light on the relevance of the propositions developed in this article. The distinction of format components in four classes, i.e. product/service deliverables, benefit communicators, system identifiers, and system facilitators, by Kaufmann and Eroglu (1998) may be helpful in this respect. Second, we have highlighted the age and the entry / yearly fee as determinants of the set of core components of a franchise. There are of course other determinants, like trust, uncertainty, costs of writing contracts, quality, monitoring, and country effects. Third, the propositions have been formulated separately. However, the cases of McDonalds and Great Harvest presented by Streed and Cliquet (2008) indicate that the scope of the set of core components, monitoring, strategy, and assortment are connected. Future research may therefore pay attention to the alignment between the various format components as well as the alignment between the format and other attributes (Holmström and Milgrom, 1994) in order to design a coherent franchise.

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THE SWITCH TO INTERNATIONAL FINANCIAL REPORTING STANDARDS: THE IMPACT ON VALUATION OF COMPANIES

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ABSTRACT

In the very near future, the United States is expected to switch from Generally Accepted Accounting Standards (GAAP) to International Financial Reporting Standards (IFRS). What impact will this switch have on the valuation of US companies? In this paper, we conduct analysis to answer this question. To perform our study, various ratios are used as proxies to assess a company's valuation. Furthermore, since many US companies will be required to switch their inventory valuation method, the switch from LIFO to FIFO is utilized in our analysis. From our analysis, we can see that switching from LIFO to FIFO will mean higher valuations for many US companies who make the change.

Keywords: *IFRS; US GAAP; Valuation, FIFO, LIFO, Profitability Ratios, Liquidity Ratios, Solvency Ratios; Utility Ratios; Market-based measures*

1. INTRODUCTION

The switch from US Generally Accepted Accounting Standards (GAAP) to International Financial Reporting Standards (IFRS) is fast approaching. However, this switch will impact the valuation of companies. Valuation of companies is of extreme importance in today's market economy since it provides crucial information on which decisions are made. For investors, creditors, portfolio managers and others, the determination of whether a company is overvalued or undervalued is crucial in identifying stocks and bonds and in the decision to extend credit to an institution. In addition, determining the fair value of a company is an important factor in deciding whether a merger should or should not be executed. This information is also of extreme importance to accountants in determining the valuation of assets that is used in the financial records.

In this paper, we examine the impact of switching from US GAAP to IFRS on valuation of companies. To value companies, we utilize a variety of financial ratios involving inventory as valuation proxies to identify and explore the attribute differences between the valuation of companies. We also utilize numerous examples to determine and illustrate the differences between the valuation of companies under US GAAP versus IFRS.

2. IMPACT OF SWITCH FROM US GAAP TO IFRS ON RATIOS

Over 35 percent of the U.S. companies currently use the last in, first-out method (LIFO) method for inventory valuation. However, LIFO is not permitted under IFRS. As a result, when the United States changes over to IFRS, U.S. companies will have to switch to an alternative inventory valuation method, such as FIFO or average cost. For many companies, inventory comprises a large portion of their assets and makes up an important part of the balance sheet. Hence, over the long term, because prices tend to increase, the choice of inventory valuation method can dramatically affect valuation ratios.

The value of inventory also affects a company's cost of goods sold, its net income, current assets, and other balance sheet measures. Many lenders rely on ratios involving inventory and/or current assets to evaluate a company's liquidity and financial stability prior to issuing credit. Therefore, the choice of switching from LIFO under US GAAP to FIFO under IFRS may come into play for corporations considering borrowing money, especially if creditors are concerned about the financial strength of the company's balance sheet. Based on the effects created on the balance sheet, income statement, and cash flow statement, LIFO under U.S. GAAP, and FIFO under IFRS cause the various ratios to produce significantly different results.

3. ILLUSTRATION OF IMPACT OF SWITCH TO IFRS

To demonstrate the impact of switching from LIFO to FIFO on profitability, liquidity, utility, solvency ratios as well as market-based ratios, the following information for the ABC Company and assumptions about its balance sheet, income statement and cash flow statement are used for illustration purposes:

ABC COMPANY

ABC Company who uses the LIFO method reports the LIFO reserve of $10 million in Year 2010. It decides to voluntarily adopt IFRS in 2010. This eliminates the use of LIFO and the company will now use the FIFO method. The company has an income tax rate of 35%. ABC is now required to restate Year 2010 LIFO inventories to a FIFO basis for its Balance Sheet and Income Statement. The following information is also available:

Assets (not including inventory)	$ 400 million
Current assets (not including inventory)	$ 260 million
Current liabilities	$ 120 million
Total liabilities	$ 315 million
Common stock	$ 100 million
Outstanding common shares	10 million shares
Yearly dividend per share	$ 0.5

4. PROFITABILITY RATIOS

Profitability ratios are measurements of a company's ability to generate earning.

4.1 LIFO under US GAAP

When using LIFO under US GAAP, a company will record the most recent market prices of the inventory sold into the cost of goods sold to match against sales revenues. Thus, the LIFO method will give a relative accurate value for Cost of Goods Sold (COGS). In periods of rising prices, LIFO will give higher COGS than under FIFO. Therefore, it produces lower gross profits and net income than using FIFO. As a result, gross margin, profit margin, and earnings per share are understated and will directly indicate lower levels of profitability. However, there is one special point worthy of attention. This is that a lower net income generates lower tax liability.

So companies using LIFO under U.S. GAAP are able to save on their operational cash flows. This results from paying lower tax liabilities and the corresponding lower cash tax amounts. Considering the understated ending inventory in current assets under LIFO, the cash return on assets ratio will be overstated since it is computed as cash flows from operations divided by total assets (See Example 1 and Table below). Because the higher the ratio, the more cash the company has available to invest into the organization. This overstated cash return on assets ratio could mistakenly signal to investors, creditors and others that a higher return can be expected.

4.2 FIFO under IFRS

When switching to FIFO under IFRS, a company records the costs of inventory which are several years old as the cost of goods sold. Thus it generates lower cost of goods sold, higher gross profit and net income. As a result, gross margin, profit margin, and earnings per share will be higher and overstated. These numbers imply higher levels of profitability. However, FIFO gives a more accurate value of the ending inventory because the inventory balance is recorded on the most recent cost.

On the other hand, since higher taxable income under FIFO brings higher tax liability, then the tax liability and the corresponding cash tax payment will be higher. Thus, the cash flow from operations becomes thinner. This will cause the cash return on assets ratio to be understated. This could indicate to analysts and others that a lower return will be expected since the company has less cash available to reinvest.

4.3 Example 1: The impact on the profitability ratios are shown below:

Table 1: Profitability Ratios

Measure	LIFO 2010	Effects	FIFO 2010 Adj	Effects	Switching Effects	Change	Direction of change
Gross Margin	0.5	Understated	0.6	Overstated	Increase	20.00%	Favorable
Profit Margin	0.195	Understated	0.26	Overstated	Increase	33.33%	Favorable
EPS	1.95	Understated	2.6	Overstated	Increase	33.33%	Favorable
Cash Return on Assets	0.035	Overstated	0.030	Understated	Decrease	-14.49%	Unfavorable

From the above example, we can see that switching from LIFO to FIFO under IFRS improves the company's EBIT and bottom line (Net Income). As a result, Earning per Share also increases. It infers that the higher EPS would mean higher valuations for the company making these changes. However, the underlying impact of higher cash payment for taxes owed may have the opposite effect and may lower the valuation of a company after switching to FIFO. The main reason is that cash paid for taxes will reduce cash flows for working capital as well as other selling, general and administrative expenses. Despite this caveat, we can see from the ratios calculated above that after switching from LIFO under US GAAP to FIFO under IFRS, the most of profitability ratios may show significant improvement. The overall profitability picture of the firm will look much better when FIFO is used under IFRS than when LIFO is used under US GAAP, although cash return on assets decreases slightly.

5. LIQUIDITY RATIOS

Liquidity is the ability of a company to convert its assets to cash quickly and meet its short term obligations. Hence, the liquidity ratios measure the short-term debt paying ability of a company.

5.1 LIFO under U.S.GAAP

As inflation rises, prices in the economy will rise. Under the LIFO inventory method, the layers left over within the inventory account could be very old because the layers of inventory with current costs transfer were used for cost of goods sold. These current costs will be used to match sales revenue when inventory is sold. As a result, the ending inventory amount will be understated under LIFO, and will not be an accurate representation of the actual flow of physical items through inventory. This fact could indicate that current assets of the company using LIFO under US GAAP will be understated as well. Since the current ratio is equal to current assets over current liability, this ratio will be understated under LIFO under US GAAP. Because the higher the current ratio, the more capable the company is of paying its short-term obligation, this understated ratio could inaccurately imply that the firm is in the less favorable position regarding its liquidity and financial health. Similarly, the working capital in the LIFO firm could also be understated and may not be a good indicator of the company's underlying operational efficiency. However, cash tax savings from using the LIFO method will result in the thicker cash flow, especially from operations. Therefore, the operating cash flow ratio is overstated, because it is equal to cash flow from operation over current liability. Since bills are normally paid by a company in cash, then this positive ratio may indicate that a company's liquidity in the short term is in a good stage.

5.2 FIFO under IFRS

Under FIFO inventory method, as the older and cheaper goods are sold and recorded, the more expensive and newer goods remain as the ending inventory on the company's books. It could mean that FIFO gives a more accurate value of inventory. Having the higher valued inventory on the company's balance sheet will increase the current assets. So the current ratio will be greater than one using LIFO under US GAAP, and it could mean that the firm has more capacity to manage its short-term liabilities. The company may be judged at the favorable position for its liquidity and financial health. In addition, working capital would be higher than the number using LIFO as well. Although this ratio may be overstated and may still not to be an appropriate indicator for operational efficiency, this ratio is the more accurate value and may better reflect the company's reality as compared to the ratio under LIFO. On the other hand, since the lower cost of goods sold under FIFO causes the higher taxable income as well as the greater cash tax amount, the thinner cash flows from operations will create the lower operating cash flows ratio. This could imply that the company's liquidity in the short term may not show be as positive as it should be, and thus the company's liquidity will lose its flexibility.

5.3 Example 2: The impact on various liquidity ratios of switching from LIFO to FIFO is demonstrated below:

Table 2: Liquidity Ratios

Measure	LIFO 2010	Effects	FIFO 2010 Adjusted	Effects	Switching Effects	Change	Direction of Change
Current Ratio	2.764	Understated	2.825	Overstated	Increase	2.21%	Favorable
Working Capital	217	Understated	226.13	Overstated	Increase	4.21%	Favorable
Operating Cash Flow Ratio	0.138	Overstated	0.120	Understated	Decrease	- 13.32%	Unfavorable

From the ratios calculated above, it is easy to see that after switching from LIFO under US GAAP to FIFO under IFRS, most of the liquidity ratios that were tested increased in a favorable direction. Although the improvements are not huge, they may still increase the chances of getting a loan from creditors. On the other hand, using cash flows instead of income could often be a better indication of the firm's real liquidity. In the measurement of the operating cash flow ratio, the company's liquidity significantly decreased because of the thinner cash flow from operations after switching to FIFO under IFRS.

6. UTILITY RATIOS

Utility ratios measure a company's efficiency and effectiveness in utilizing its assets.

6.1 LIFO under U.S.GAAP

As noted earlier, in period of rising prices, cost of goods sold under LIFO is overstated and the inventory balance is understated. Therefore, the inventory turnover ratio is overstated dramatically because it is equal to cost of goods sold divided by the average inventory. This ratio could be misleading to gauge the number of times a company sells its inventory. This overstated higher inventory turnover ratio could give an inaccurate picture that the company's products are selling well when in reality they may not be moving very much. Since inventory could be the significant portion of a company's total assets, the understated inventory causes total assets to be understated as well. As a result, the total asset turnover ratio, which is equal to revenue over total assets, is overstated. This higher asset turnover ratio might be interpreted as the company being in good condition and that it is using its assets efficiently to generate sales.

6.2 FIFO under IFRS

It might be argued that the FIFO inventory valuation method gives a more accurate value of inventory since the items remaining in inventory are valued at the most current prices. Further, this higher inventory valuation under FIFO bolsters the company's balance sheet. However, under FIFO, cost of goods sold is understated since the older and cheaper layers of products are considered to have been sold. As a result, the inventory turnover ratio will be understated. This understated, lower inventory turnover ratio could indicate that turnover of the company's products is declining and sales are not as favorable as they should be. Nevertheless, because FIFO provides a more accurate valuation of the inventory balance, the total asset amount is closer to a more precise value, and the total asset turnover ratio will be more accurate as well. It could mean that this number will reflect a more accurate picture about the company's efficiency in using its assets to generate revenue. An example of selected utility ratios is shown below:

6.3 Example 3: The results of various utility ratios are shown below:

Table 3: Utility Ratios

Measure	LIFO 2010	Effects	FIFO 2010 Adj	Effects	Switching Effects	Change	Direction of Change
Inventory Turnover Ratio	0.625	Overstated	0.444	Understated	Decrease	-28.89%	Unfavorable
Total Asset Turnover Ratio	0.208	Overstated	0.204	More Accurate	Decrease, not obvious	-2.04%	Slightly unfavorable

From the ratios calculated above, we can see that after switching from LIFO to FIFO under IFRS, the utility ratios examined decrease in an unfavorable direction. On the one hand, the inventory turnover ratio will decline dramatically, which could impact the assessment about the company's efficiency to turn inventory into sales. On the other hand, the total asset turnover ratio won't change very much, and the decrease of the number is very small. Therefore, the evaluation regarding the company's efficiency to utilize its assets won't be affected significantly because of switching from LIFO to FIFO.

7. SOLVENCY RATIOS

Solvency ratios measure the ability of a company to pay its long-term liabilities.

7.1 LIFO under U.S.GAAP

Under LIFO, since prices generally will rise over time because of inflation, this method will record the sale of the most expensive inventory first, and thereby decreases net profit and will also reduce the corresponding income taxes. This will cause the company's Retained Earnings to be understated because of the lower net income. Additionally, the value of Shareholders' Equity on the company's balance sheet will be understated too. So the most important solvency ratio, debt to equity ratio, which is computed as total liabilities over shareholders equity, to be overstated. This ratio could be misleading and could erroneously show that the company has been more aggressive in financing its growth with debt than it really does. Since total assets under LIFO is understated because of the understated inventory account, the total debt to total assets ratio, which is computed as total liabilities over total assets, is overstated as well. Companies with higher debt to equity and total debt to total assets ratios will place themselves at risk because a higher ratio could mean a riskier firm since it is highly leveraged. Creditors may get worried and demand that the company pay some of its debt back. In general, these two ratios could reflect a company's leverage level. The overstated ratios can result an inaccurate interpretation in volatile earnings and cause creditors to conclude that the firm may be liable for additional interest expense.

However, an examination of the Solvency ratio will show that it is understated. The Solvency ratio provides a gauge about how a company will keep meeting its debt obligations and is computed as after tax net profit + depreciation divide by long-term liabilities + short-term liabilities. The after tax net profits are understated because of the overstated cost of goods sold. The understated solvency ratio will be easily interpreted by creditors as increasing the probability that the company will default on its debt obligations.

7.2 FIFO under IFRS

The FIFO inventory valuation method will result in the less expensive inventory being recorded as sales first, thereby increases net profit and the corresponding income taxes. The remaining Equity on the Balance Sheet will be overstated while Retained Earnings is overstated by the higher after tax net income. So the debt to equity ratio is understated. It could indicate that the company is in a better position in financing its assets by debt. Because the value of the inventory account under FIFO has a more precise number, total assets under this method are more accurate, and the debt to total assets ratio will be a good indicator of the company's leverage condition. But for the solvency ratio, it will be overstated since the after tax net profit is higher under FIFO than one under LIFO. The higher ratio could become a positive sign and will cause creditors to believe that the company has a lower chance of encountering problems on meeting its debt obligations.

7.3 Example 4: The results of various solvency ratios are shown below:

Table 4: Solvency Ratios

Measure	LIFO 2010	Effects	FIFO 2010 Adj	Effects	Switching Effects	Change	Direction of Change
Debt to Equity	1.909	Overstated	1.857	Understated	Decrease	-2.72%	Favorable
Debt to Total Assets	0.656	Overstated	0.650	More Accurate	Decrease	-0.95%	Favorable
Solvency Ratio	0.062	Understated	0.082	Overstated	Increase	31.87%	Favorable

8. MARKET MEASURES

Market measures represent the market expectations of the future earnings, distributions to shareholders and potential shareholders. One common ratio is the dividend payout ratio which expresses the percentages of earnings that are distributed to shareholders in the form of dividends. It also provides an indication of a company's reinvestment strategy. Thus, we select the dividend payout ratio to test the effects after switching from LIFO under US GAAP to FIFO under IFRS. Under LIFO, since the dividend payout ratio is computed as yearly dividends per share divided by earnings per share, it is a higher number under this method because of the understated earnings per share. This overstated ratio under LIFO could mean that a higher fraction of the firm's net income is paid to its stockholders in dividends. Investors who prefer high current income and limited capital growth would find this very attractive.

An examination of the FIFO inventory valuation method under IFRS shows that earnings per share would be overstated because of the lower cost of goods sold. So the dividends payout ratio is lower. It could indicate that a higher part of earnings is left for reinvestment to create future growth for the company. Investors seeking capital growth may prefer this lower payout ratio.

8.1 Example 5: Using the information from same example of ABC Company and the assumptions about the balance sheet, income statement and cash flow statement above, the results of the market based measure is shown in the following table:

Table 5: Market Based Measures

Measure	LIFO 2010	Effects	FIFO 2010 Adj	Effects	Switching Effects	Change	Direction of Change
Dividend Payout Ratio	0.256	Higher	0.192	Lower	Decrease	-25.00%	Favorable

From the solvency and market based ratios calculated above, it is obvious that after switching to FIFO under IFRS, all of the solvency ratios and market measures we tested change to a favorable position. In particular, the debt to equity ratio and the solvency ratios improved significantly. According to Derstine and Huefner (1974), the Dividend-Payout ratio is negatively related to a company's market risk. Thus, the decreased ratio after switching to FIFO will reduce the expectation of market risk, especially while using accounting risk based measures. In addition, financial leverage ratios such as Debt to Equity and Debt to Total Assets have a positive relationship with market risk, based on an early study done by Derstine and Huefner (1974). Therefore, the decreasing financial leverage ratios could lower the prediction of market risk in the desirable direction. Furthermore, all of the favorable effects of the solvency ratios and market based measures obtained after switching from LIFO to FIFO in our examples above confirm the conclusions reached by Elgers and Murray (1984) that FIFO based accounting risk measures are able to improve the quality of market based prediction of systematic market risk, while the LIFO-based ratios do not offer such improvements.

9. IMPLICATIONS OF THIS STUDY

When the U.S. switches from GAAP to IFRS, U.S. companies who have been using LIFO for inventory valuation will have to switch to FIFO or average cost. From our analysis, we can see that switching from LIFO to FIFO will result in an improvement of a company's profitability, liquidity, utility, solvency and market-based ratios. This would mean higher valuations for the companies making these changes.

10. CONCLUSION

Based on the analysis and examples discussed above, we can see that when switching from LIFO under US GAAP to FIFO under IFRS a company will gain a beneficial impact with respect to the aspects of profitability, liquidity, solvency, and market-based measures as computed using ratio analysis. Predictions of market risk based on accounting risk measures will also be superior to market based expectations after switching. In general, the assessment of a company's liquidity, financial stability and strength will be presented in a more desirable light.

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IS SOCIAL ENTREPRENEURSHIP RELEVANT FOR A CAPITALISTIC ENTERPRISE?

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ABSTRACT

Many businesses have been placing increased emphasis on social responsibility. Similarly, the concept of social entrepreneurship has begin to gain increased scrutiny in research and various business school curricula; yet the inherent evolution of social entrepreneurship remains an enigma as to its sustainability, ethics or innovation (Welsh & Krueger, 2009). In many cases, social entrepreneurship activities appear to be outdistancing substantive and reliable research and theoretical development to appropriately substantiate its impact (Murphy & Coombes, 2009). Therefore, substantive research is required to assess and examine the potential impact of social entrepreneurship on for-profit organizations, as well as evaluate potential synergies and disparities with social responsibility. This paper presents a formative argument for the expanded research into social responsibility, as well as the synergistic potential with social entrepreneurship in for-profit organizations.

Key words: Social responsibility; Social entrepreneurship; Capitalistic organizations

1. INTRODUCTION

Recent research has indicated a potentially emerging trend that more for-profit organizations may be benefiting from social entrepreneurship programs and activities requiring enhanced organizational capabilities and growth strategies resulting in improved earnings (Bloom & Chatterji, 2009). Therefore, substantive follow on examination should be focused on the potential theoretical, research and existent case studies which may or may not support the potentially divergent aspects of social entrepreneurship and social responsibility in for-profit organizations. A significant focus for the emergent aspects of social entrepreneurship in the context of social responsibility is the growing trend of large Fortune 500 type organizations to enhance their socially responsible programs, while maintaining profit objectives. Kingsmill (2009) discussed the motivating factors for high net worth individuals in their support of socially responsible initiatives and concluded that many such individuals are focused on maintaining their integrity while continuing to evolve and grow their businesses. A substantive focus for a proposed debate on social entrepreneurialism is whether some of these emerging research studies depict substantive and realistic social responsibility, or whether it is becoming just a cost of doing business.

Proposed research on social entrepreneurialism should focus on whether it is divergent from capitalist thinking, or whether it is a true paradigm shift in the ways and means of organizational behavior; attendant with profit goals and objectives. Hamm (2008) suggested that social entrepreneurial ventures provide a forum on which to place a human face on capitalism, while not being necessarily divergent from capitalist ideals. The emergence of an increased focus on social entrepreneurship in business curricula requires substantive review and research to ensure it is appropriately focused for the evolving global initiatives and agenda for capitalistic ideals. In an interview with Lieutenant General Russel Honoré former commander of Joint Task Force Katrina in the U.S. Honoré, he stated "the role of social entrepreneurship (is) in job creation and how the business community benefits from the work social entrepreneurs do" (Robinson, 2008, p.1).

2. A THEORETICAL PERSPECTIVE ON SOCIAL RESPONSIBILITY

Corporate social responsibility (CSR) has been studied for over thirty years with hundreds of empirical studies performed; many of which provided mixed results as to organizational effectiveness, as well as profit and market maximization (Garcia-Castro, Arino & Canela, 2010). Recent research has indicated a transformative approach for the incorporation of CSR activities related to more cooperative and collaborative communication rather than "persuasive negotiation"; with a diminishing focus on corporate resistance (Sharp and Zaidman, 2010, p.51). Regardless, there remain continuing questions and gaps as to the pertinence of social responsibility and its interdependence, potential contribution and/or effects on organizational effectiveness, profit maximization and market applicability. Yet, continued and evolving research appears to be gaining momentum as to the positive impacts of social responsibility on such organizational outcomes. Su & He (2010) have correlated the positive impacts of corporate and enterprise philanthropy with overall corporate profitability. While historical research appeared to continually highlight the divide between social responsibility and profit or market maximization in for-profit companies, more recent research compels increased scrutiny of the positive correlation.

While formative research must continue to extend our overall understanding of the impact and correlation between CSR and profit maximization, trust continues to be a harbinger of the continuing divide and dilemma. Emerging leadership is required to positively corroborate these potentially disparate activities for maximum success and overall economic stability (Keating, 2010). An underlying concern for many of these same leaders is the purported disparity between the ultimate profit motives and actions related to social responsibility. Herein appears the dichotomous relationship devoid of substantive and corroborating research. Boyd (2001) appears to have captured this aspect of the purported disparity when he stated "there is no fundamental contradiction between concern for the environment or social responsibility and the profit motive. In short, greed is still good for you." (p. 35). In further support of the evolving positive impact associated with socially responsible activities and research, Dawkins & Lewis (2003) concluded in their research on some of the environmental disasters associated with Shell, Nike, et al., that a new sense of corporate responsibility is evolving. This evolving responsibility requires a delicate and proactive "balance between the contributions of governments, companies and non-governmental organizations" (p. 193).

Recent research has indicated that visionary leadership will assist in the evolution of socially responsible activities, many of which may be entrepreneurial in nature. Such visionary leadership will require innovative thinking beyond the typical and acceptable organizational constructs. As these visionary leaders embrace and relate this extended and innovative thinking, more organizations will begin to see the evolution based on truly transformative results and evolving business opportunities while readily addressing substantive social issues and problems (Kantor, 2010). As research evolves related to this pressing issue on social responsibility and its variant impacts on successful entrepreneurship, existent research has begun to support the premise of social responsibility as a potential scapegoat for underperforming entrepreneurial ventures. Zu & Song (2009) concluded in research on socially responsible organizational activities, that many under-performing organizations might utilize an increased focus on social responsible behavior to detract focus from the organization's underlying negative results. Ultimately, such deviant activities begin to cloud the real potential benefits related to corporate socially responsible activities, and the inherent positive impacts for sustainable and positive results.

3. IS SOCIAL ENTREPRENEURSHIP SIMILAR TO SOCIAL RESPONSIBILITY?

It appears that the growing debate between social entrepreneurship and social responsibility have more similarities than differences. Formative and evolving research has indicated that social entrepreneurship can be conceptualized as an outgrowth or extension to corporate social responsibility (CSR) programs (Murphy & Coombes, 2009). Other substantive discussions focus on the need for "sustainable value creation" as an imperative for business opportunities in this century and as a requirement for "socially responsible business leadership" (Cooperrider, 2008, p. 32). The underlying issue tends to focus on whether an effective CSR can contribute and co-exist with profit and market value maximization as required by for-profit philosophies espoused by leading economists such as Milton Friedman (Baron, 2007). The coexistence of social entrepreneurship as an extension to CSR has global ramifications, and the expanding for-profit potential lies in developing markets (Seelos & Mair, 2005). Therefore, the ongoing debate between social entrepreneurship and social responsibility has positive ramifications for clarity, innovation and the potential co-existence between for-profit and not-for-profit organizations.

As the debate evolves, several research studies have indicated the role that social entrepreneurialism has played as a change agent in the context of social responsibility (Welsh & Krueger, 2009). This change agency implication tends to support the premise that the two are not mutually exclusive or dichotomously opposed; rather, social responsibility becomes dependent upon various external divers, and social entrepreneurship is evolving as one of the major drivers. Given this tendency as a change agency for CSR, social entrepreneurialism requires substantive study as to support or refute the ability for profit and market maximization, while adhering to the underlying CSR core disciplines. Although several formative studies have begun to support this synergy (Cooperrider, 2008; Seelos & Mair, 2005), the body of knowledge requires substantive reviews and study to reinforce such assumed synergies.

As a potential example of the synergies between social responsibility and entrepreneurship, the drug industry is a multi-billion dollar industry worldwide. In recent research, social entrepreneurship has been linked to the development and evolution of innovative and sustainable diagnosis of malaria (Allen, Hetherington, Manyama, Hatfield, and van Marle, 2010). Although this research and innovation may be related to non-profit oriented activities, its evolution may lead to substantive profits and market maximization within the drug industry. More importantly, these kinds of initiatives have embraced teams with multi-disciplines, the utilization of tribal knowledge (localized), continuous learning and adaptation, as well as a focus on sustainable long-term results. Inherent in such research is the premise that being socially responsible while utilizing entrepreneurial disciplines may be more focused on the longer term objectives and successes; contrary to the commonly required (and accepted as de facto) capitalistic requirements for short term gains and profits.

4. CAPITALISTIC IMPACT

Making a profit has been an entrepreneurial instinct that drives growth in a capitalistic society. Capitalism is “the condition of possessing capital“(Oxford, 2006) and defines an economic system whereby goods and services are exchanged on a for-profit basis. This contrasts with other economic systems which may exchange goods or services directly for other goods or services without the goal of profit (Gender, 2008). Those opposing the capitalism drive for profit potentially disregard the workers as well as the resulting environmental impact (Red, 2002). Capitalism is grounded in the perception of free enterprise, which maintains that government intervention in the economy should be restricted, and that a free market will ultimately maximize consumer welfare; principles most notably articulated in Adam Smith's treatise (Smith, 1779). In business entrepreneurship, social wealth is a by-product of the economic value created; in social entrepreneurship, the main focus is on social value creation (Venkataraman, 1997).

In a capitalistic environment, a corporation, whether for-profit or not-for-profit, is an assembly of individuals organized in a specific legal form, similar to a community whereby it is nothing more than a sum of individuals organized in a specific place (Rand,1967). An organization is a citizen and as such, it has corporate citizenship. For-profit corporations have typically demonstrated good citizenship through charitable contributions, sponsoring community events, and transforming to “green” environmental policies and processes (Citizen, 2007). Although social entrepreneurship is evidenced in many profit-seeking businesses – on occasion in their strategies and activities, on other occasions through donations of money and time – the main world of the social entrepreneur has typically been associated with the voluntary sector (Thompson, 2002). Unfortunately, the social entrepreneurs often fail to capture the value they have created in an economic form to pay for the resources they consume in their endeavors. As an example, who do they charge for re-foliating a burnt out forest or running an after school day care? How do they get everyone who benefits to pay? To offset this value-capture problem, social entrepreneurs rely on subsidies, donations, and volunteers; but this further muddies the free market waters (Dees, 1998). It has not been uncommon for government to step in and “save the day”.

One of the exploratory questions that this paper invites is whether government should become involved with social entrepreneurship by providing incentives for social actions. The L3C organization structure for example is a variation of the more common limited liability corporation (LLC). Low-profit, limited liability corporations (L3Cs) are designed to be a hybrid between a charity and a for-profit business and as such provided tax benefits. A spokesman for Sears has recently stated; "Sears is proud to be the only retailer in the U.S. Environmental Protection Agency's Responsible Appliance Disposal (RAD) program, continuing our commitment to improving the environment through responsible appliance disposal. Not only are we helping the environment by reducing emissions of ozone-depleting substances and greenhouse gases" (Sears, 2010). Potentially, Sears could start a separate L3C and benefit from within a new tax shelter. The struggling newspaper industry is already considering the potential of an L3C; “with stakeholders that include the community depending on reliable media as well as the paper's unions could use its L3C status to tap non-profit donors" (Richards, 2009). Should government provide subsidies and other redistribution of for-profit wealth? This remains one of the compelling tactical questions while the evolving and compelling research continues for improved social responsibility as well as social entrepreneurship.

5. NEXT STEPS: FORMATIVE AND NEEDED RESEARCH

Today we are waking up in a new world where transformation and sustainability are no longer worthy options, but are the only path forward. Businesses are embracing the doctrine of becoming good corporate citizens. Patricia Aburdene refers to this emerging mega trend as "conscious capitalism" (Aburdene, 2005, p.45). Aburdene, (2005) further suggests that businesses are "becoming aware of the unbearable price of the philosophy that embraces "'profit at any cost'". There is a tidal wave of literature and un-collaborated evidence that points to a vital need for empirical research to assess and examine the potential impact of social entrepreneurship on for-profit organizations, as well as evaluate potential synergies and disparities with social responsibility and conscious capitalism. This paper has endeavored to correlate the existent research in support of more robust and ongoing initiatives to develop a holistic view of the impact of social responsibility and/or social entrepreneurship on for-profit and not-for-profit enterprises; each of which may be endeavoring to attain different objectives, but through an appropriate and acceptable approach.

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COMPARISON OF RESPIRATORY SURFACTANTS FOR RESPIRATORY DISTRESS SYNDROME: OUTCOMES AND ECONOMICS

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ABSTRACT:

To compare the outcomes and economics of respiratory surfactants (Poractant, Beractant, Calfactant, Colfosceril, Lucinactant) in Respiratory Distress Syndrome (RDS). I conclude that Lucinactant has most cost-effectiveness and show similar outcomes to Poractant. Other surfactant (beractant, calfactant, colfosceril) in patients with RDS has less cost-effectiveness than Poractant.

Key words *"surfactant", "respiratory distress syndrome", "effectiveness", "outcomes", "cost-effectiveness", "economic", "mortality", "beractant", calfactant", "poractant" and "colfosceril"*

1. INTRODUCTION

Respiratory Distress Syndrome, also known as hyaline membrane disease, predominantly caused in premature neonates of <30 week's gestation because their lungs are immature and deficient in pulmonary surfactant. Air leaks (pneumothorax and pulmonary emphysema), bronchopulmonary dysplasia, and death are major complication associated with RDS. The administration of exogenous surfactant in premature neonates improves pulmonary gas exchange, decreases pulmonary air leaks, decreases mortality and morbidity associated with RDS. Surfactant can be natural (Poractant, Beractant or Calfactant) or synthetic (Colfosecril, Lucinactant) in patients with RDS. Lucinactant is a new synthetic peptide-containing surfactant that contains sinapultide, a novel, 21-amino acid peptide (leucine and lysine repeating units, KL4 peptide) designed to mimic human SP-B. Evidence suggests that synthetic surfactants consisting solely of phospholipids can be improved with the addition of peptides that are functional analogs of SPs.[2] Studies showed that natural surfactants are more effective compared to synthetic surfactants in terms of decreasing duration on ventilators, air leaks and improving pulmonary gas exchange. However, there are few studies comparing different natural surfactants. Among the natural surfactants, commercially available in U.S are poractant, beractant and calfactant. Therefore, the purpose of this study is to compare the surfactant for their outcomes and economics.

The objectives of this paper are:

1) To evaluate and compare outcomes and economic of natural vs. synthetic surfactant. (beractant and colfoseril)[15]
2) To evaluate and compare economic outcomes among three natural surfactants. (poractant, beractant and calfactant)[13,14]
3) To evaluate and compare clinical outcomes among three natural surfactants by measuring changes in the fraction of inspired oxygen (FiO_2) and mortality.[12]
4) To compare the efficacy and safety of a novel synthetic surfactant containing a functional SP-B mimic (lucinactant; Discovery Laboratories, Doylestown, PA) with those of a non–protein-containing synthetic surfactant (colfosceril palmitate; GlaxoSmithKline, Brentford, United Kingdom) and a bovine-derived surfactant (beractant; Abbott Laboratories, Abbott Park, IL) in the prevention of neonatal respiratory distress syndrome (RDS) and RDS-related death.[1,2,3]
5) To estimate the clinical consequences and economic impact of lucinactant and pooled animal-derived surfactants (beractant [Survanta®] and poractant alfa [Curosurf®]) in the prevention of RDS among surviving pre-term infants weighing 600 to 1,250 grams.[10]

2. METHODS

A review of published studies and literature was performed.
Database search is used (EMBASE, MEDLINE, PubMed, IPA, MD consult).
Articles from 1966 to present were searched and references mentioned in the articles were from 1995.

A decision-analytic model was constructed using a hospital perspective to assess the pharmacoeconomics of surfactant replacement therapy. Data sources: a) epidemiologic data regarding low birth weight and VLBW infants is from the U.S. National Centers for Health Statistics (2003), and the Vermont Oxford Network (2004); b) clinical outcomes are from two randomized, controlled clinical trials of surfactant therapy (SELECT and STAR); and c) cost data is from an assessment of daily neonatal intensive care unit (NICU) costs for 244 pre-term infants with severe RDS (2004). Cost variables: Average cost of a day in the NICU on mechanical ventilation (MV) was U.S. $2,386 and was U.S. $1,565 off MV; surfactant pharmacy costs were included at price parity from the Red Book (2005).[10]

3. RESULTS

<u>Table 1-5:</u> Beractant compared to colfosceril showed

TABLE 1			
LANCE, et al DATA	DEATH % (p=0.03)	NO. OF DOSES (p=0.01)	% OF PATIENTS TREATED WITH ONE DOSE (p<0.01)
COLFOSCERIL	28	1.8 ± 0.7	38
BERACTANT	11	1.4 ± 0.6	66

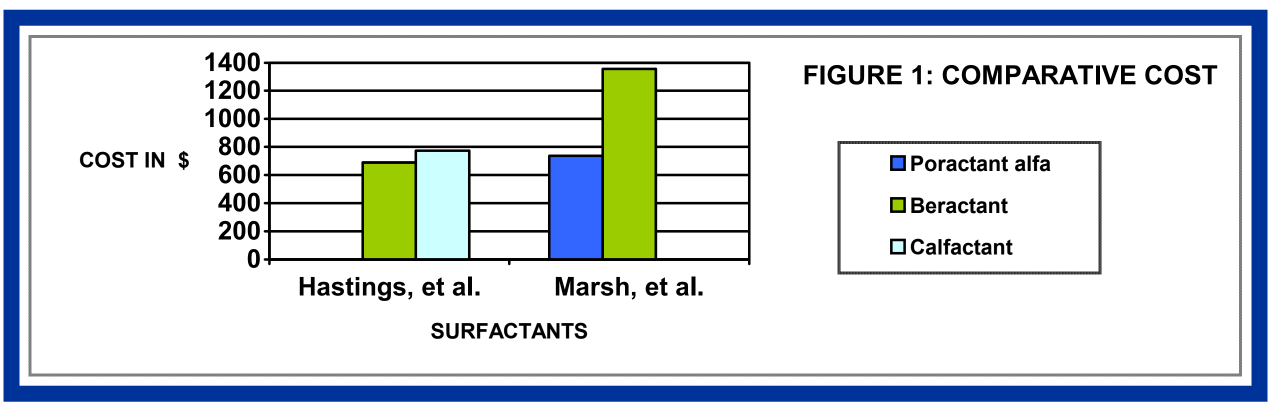
TABLE 2				
RAMANATHAN, et al DATA	FiO_2 AUC_{0-6} (HRS) (p<0.005)	DURATION OF MECHANICAL VENTILATION (HRS)	DEATH % AT 36 WEEKS (p=0.034)	% OF INFANTS TREATED SUCCESSFULLY WITH 1DOSE p<0.002
PORACTANT ALFA	1.989	14 (17)	3	73
BERACTANT	2.237	16 (20)	11	51

TABLE 3						
MARSH, et al DATA	MODEL 1		MODEL 2		MODEL 3	
	PORACTANT ALFA	BERACTANT	PORACTANT ALFA	BERACTANT	PORACTANT ALFA	BERACTANT
TREATMENT COST	$73,745	$135,536	$87,770	$109,821	$71,970	$90,025

TABLE 4			
CLARK, et al DATA	DEATH %	SEVERE IVH GRADE 3 & 4 p = 0.5	NECROTISING ENTEROCOLITIS p=0.6
CALFACTANT	44	69 (6)	49 (4)
BERACTANT	43	283 (7)	162 (4)

TABLE 5			
HASTINGS, et al DATA RESCUE GROUP	COST/ DOSE	COST OF DRUG WASTE / PATIENT (MEAN±S.D,$)	TOTAL COST/ PATEINT (MEAN±S.D,$)
CALFACTANT	604.6±416.23	167.8±101.91	772.40 ± 439.88
BERACTANT	608.3±440.72	81.20±81.93	689.56 ± 480.23

Fig. 1 Comparative Cost



- <u>Table 1:</u> Beractant compared to colfosceril showed:
  - significant reduction in dose administered, age at neonatal death, and overall mortality,
  - significant increase in the percentage of infants requiring only 1 dose,
  - reduction in duration of hospitalization and on ventilation.
- <u>Table 2:</u> Poractant alfa 200 mg/kg compared to beractant showed:

   - significant reduction in mean FiO_2 and FiO_2 $AUC_{0\text{-}6}$ values until 6 hours and death % at 36 weeks
   - significant increase in % of infants treated successfully with 1 dose,
   - reduction in duration of hospitalization and on ventilation.
- Table 3: Poractant alfa 200 mg/kg compared to beractant showed:
   - significant reduction in treatment cost.
- Table 4: Beractant compared to calfactant showed :
   - similarity in terms of mortality, intraventricular hemorrhage (IVH), occurrence of air leaks and length of hospital stay.
- Table 5: Beractant compared to calfactant showed:
   - significant reduction in amount of drug waste.

4. DISCUSSION

Study showed that there was significant reductions in dose administer and overall mortality in infants treated with beractant than colfoseril. The age at neonatal death in colfosceril was more comparing to beractant. So, more hospital resources were used for infants who were not going to survive and overall increasing the total cost. Limitation of this study was that the cost was determined only from hospital perspective.

Study showed that the mean FiO2 AUC0-6 values for the poractant alfa group was significantly lower than the mean FiO2 AUC0-6 values for the beractant group ($p<0.005$). [13]Also, less no. of doses of 200 mg/kg poractant were needed after initial therapy compared to beractant. However, limitation is later finding was that it could have been due to large initial dose of poractant alfa or bias due to the administration of poractant at every 12 hours.[14] Poractant alfa 200 mg/kg also significantly reduce the duration on mechanical ventilation. It also shows significant reduction in mortality compared to beractant, however it can be bias because the study wasn't powered to evaluate mortality as primary outcome.[15] Poractant alfa was found to be less costly than beractant based on contributing factors like dosing schedule, AWP, fewer additional doses, larger amount of drug per vial (with respect to dose), amount of drug wasted per vial, initial dose, patient weight and dose scenario.[12] However the limitation to this founding was the lack of study to take into account group-purchasing organization price, no. of additional dose required, and difference in dosing practice and institutional infant mix (and weight).

Studies found that beractant and calfactant are similar in terms of mortality, IVH, necrotising enterocolitis, occurrence of air leaks and length of hospital stay. [11,13]However, article emphasizes major difference between both surfactants which was the presence of surfactant B protein in greater amount in calfactant than beractant. Protein B is a critical factor for optimum immediate surfactant function and therefore calfactant might increase the risk of over-distention during mechanical ventilation, leading to increase in risk of lung injury and air leak.[12] But in comparing both surfactants for cost, calfactant was significantly more costly than beractant because of greater product waste. [15]

Lucinactant reduced significantly the incidence of RDS at 24 hours, compared with colfosceril (39.1% vs 47.2%; odds ratio [OR]: 0.68; 95% confidence interval [CI]: 0.52– 0.89). There was no significant difference in comparison with beractant (33.3%). However, lucinactant reduced significantly RDS-related mortality rates by 14 days of life, compared with both colfosceril (4.7% vs 9.4%; OR: 0.43; 95% CI: 0.25–0.73) and beractant (10.5%; OR: 0.35; 95% CI: 0.18–0.66). In addition, BPD at 36 weeks postmenstrual age was significantly less common with lucinactant than with colfosceril (40.2% vs 45.0%; OR: 0.75; 95% CI: 0.56–0.99), and the all-cause mortality rate at 36 weeks postmenstrual age was lower with lucinactant than with beractant (21% vs 26%; OR:0.67; 95% CI: 0.45–1.00).[1,2,3]

Surviving infants who received lucinactant compared to pooled animal-derived surfactants had 4.14 fewer NICU days (mean 75.68 days vs. 79.82 days, respectively). Fewer NICU days convert into a total cost savings per infant who survived of U.S. $5,841 in the lucinactant group compared to the pooled animal-derived cohort.[10]

5. CONCLUSION

The studies showed that natural surfactant (beractant) is more effective compared to synthetic surfactant (colfoseril) in terms of decreasing duration on ventilators, air leaks and improving pulmonary gas exchange.

Result from comparision between the three natural surfactants poractant alfa, beractant and calfactant are as follow:

1) Beractant and calfactant were similar in terms of outcomes but calfactant is more costly because of greater product waste.[15]

2) Poractant showed more promising outcomes compare to beractant.[13,14]

3) Poractant showed most cost-effectiveness in compare to beractant & calfactant.[12]

4) Lucinactant is a more effective surfactant preparation than colfosceril palmitate for the prevention of RDS. In addition, lucinactant reduces the incidence of BPD, compared with colfosceril palmitate, and decreases RDS-related mortality rates, compared with beractant. [1,2,3]

5) Compare Poractant to Lucinactant, Lucinactant showed less costly than Poractant and similar clinical ourcome. When compared to pooled animal-derived surfactants, the synthetic surfactant lucinactant may reduce total initial NICU hospital costs in surviving infants who receive surfactant therapy.[10]

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THE SECONDARY MORTGAGE MARKET IN CANADA AS A SIGNIFICANT COMPONENT IN THE EVOLUTION OF HOUSING FINANCE IN CANADA

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ABSTRACT

Housing finance in Canada has evolved over the last 100 years with a standardized mortgage system and broad financing base for competitive mortgage lending. This report provides an historical review of housing finance in Canada, examining mortgage lending innovations and the introduction of mortgage securitization. Given the world financial crisis that started in 2007, Canada is now considered a global leader in housing finance by offering households low cost borrowing options based on prudent mortgage products and securitization of mortgage pools that have attracted global investors, yet avoided financial distress.

Keywords: *International Housing Finance; Mortgage Securitization; Financial Crisis; Mortgage Lending*

1. HOUSING FINANCE IN CANADA OVER THE LAST 100 YEARS

Homeownership rates for Canadians in urban markets, according to Statistics Canada, have increased from about 40 per cent in the 1920s to over 70 per cent in more recent years. While housing finance in Canada was plagued by a lack of an effective way to channel savings into mortgage credit, the evolution of a liberal and flexible housing finance system across Canada, as illustrated in Chart 1, may prove of interest to many nations that continue to experience sub-optimal mortgage lending that constrains homeownership.

Canada in the early 1900s, as described by Harris and Ragonetti (1998), had limited options for households to obtain mortgage credit, not dissimilar to many nations today where mortgage credit is just becoming available. During the early part of the twentieth century equitable mortgages were typical and variations of this form of mortgage credit still exist in Canada at modest levels and are also found in other nations. In simple terms, under these informal and unregulated contracts, borrowers simply pledge property as security for mortgage debt and the lender is often a private individual, commercial business or non-profit agency. This form of mortgage lending, as well as vendor take-back mortgages whereby the seller of a home will hold and underwrite a first or second mortgage loan of the new home buyer, were commonly seen throughout Canada until the 1950s, as documented by Miron (1988). Due to constrained mortgage lending, many households often had to make outright cash purchases for new housing or obtain a line of credit from a local lumber store and construct homes in phases as household finances allowed, as confirmed by Paterson (1991). In Québec, La Confédération des caisses populaires Desjardins du Québec played an important role in mortgage lending since 1900, setting the foundation and framework for the credit union system to develop across Canada.

Poapst (1993) explains that institutional residential mortgage lending in Canada was generally financed by life insurance companies from the early 1900s even until the 1960s (with the highest market share at 90 per cent between 1944 and 1954). Trust and mortgage loan institutions focused on residential mortgage lending and term deposits. Banks did not participate in the residential mortgage lending system as bank charters limited their lending practices to the borrowing needs of the business community.

Prior to 1935, under the system of equitable and commercial residential mortgages, Canadian households typically held 5-year term mortgages with loan payments usually made once or twice a year and sometimes quarterly. Mortgage credit was largely constrained by the loan-to-value "LTV" ratio extended to borrowers, typically set at 50 per cent of assessed home value most likely confirmed by an appraisal. Mortgage payments included two components: a small amount of repaid principal with the greater payment being accrued interest. After 5 years, the principal outstanding became legally and fully due. Contracts did not offer borrowers a legal right to renew and rollover a mortgage even though the lender would typically renew the mortgage if the borrower had made steady payments. Without the presence of outright mortgage renewals and depending on economic conditions, many households were subject to unpredictable mortgage credit granting and foreclosure was common as a mature system of mortgage lending did not generally exist for mortgage borrowers. Under this regime of housing finance, the risk of homeownership was high for both the lender and borrower, and the potential for capital appreciation associated with homeownership was relatively low.

CHART 1: HOUSING FINANCE EVOLUTION IN CANADA

1900 – 1935:

Mortgage credit constraints often resulted in homeownership being achieved by way of cash purchases, sweat equity, vendor mortgages, and equitable mortgages provided by noninstitutional lenders through private, nonregistered contracts.

Commercial residential mortgages typically offered by Life Insurance Companies as well as Trust and Mortgage Loan institutions.

1918 federal mortgage loan plan introduced with a set 5% mortgage loan interest rate.

Desjardins in Québec established to serve retail and commercial lending needs in Québec.

1935:

Dominion Housing Act with financial institutions participating in a system of joint federal loans and amortized mortgages.

1934:

U.S. Federal Housing Administration introduces mortgage loan insurance.

1938 - 1944:

Creation of National Housing Act "NHA" in Canada. Revised in 1944 setting NHA mortgage loan rates at 4.5% permitting up to 30 year amortizations.

1946:

Central (later Canada) Mortgage Housing Corporation established with 93.33% LTVs.

$400 annual mortgage financing approvals between 1949 – 1953.

1966:

BC and Alberta introduce strata title "condominium" legislation allowing for homeownership in parts of multi-family buildings – introduced in Ontario in 1970.

1954:

Mortgage loan insurance introduced in Canada for mortgage borrowers without a 33.33% down payment.

1967:

Canada's Bank Act amended to allow banks to fully participate in mortgage lending and abolishing interest rate ceiling.

Caisse de dépôt placement du Québec established.

1980:

Canada's Bank Act amended to allow international banks to establish subsidiaries in Canada.

$18 billion annual mortgage financing approvals between 1981 – 1985.

1987 2001

NHA MBS in Canada : 1987
Canada Mortgage Bond Program : 2001

$65 billion annual mortgage financing approvals in 1990 increasing to $219 billion by 2007.

1988 - 1992:

Basel Accord sets capital reserve requirements guidelines for financial institutions.

1992:

Canada`s Home Buyer Plan established.

2008:

Canada's Department of Finance begins a series of regulatory changes to prescribe limits on mortgage credit granting rules for NHA Insured Mortgage Loan Insurance Products.

Direct government lending **Joint loans** **Insured loans** **Mortgage securitization**

Set interest rates **Interest rate ceilings** **Market interest rates**

1900	**1910**	**1920**	**1930**	**1940**	**1950**	**1960**	**1970**	**1980**	**1990**	**2000**

The 1944 revision to the Canada's National Housing Act "NHA" set mortgage loan rates at 4.5 per cent and allowed the amortization of mortgage loans up to 30 years. It also introduced direct mortgage lending and formed the basis for a national housing agency, Central (later changed to Canada) Mortgage and Housing Corporation "CMHC", to assist returning war veterans in obtaining adequate shelter. The mortgage system was liberalized once again and by the 1950s the maximum LTV of mortgage loans was increased to 93.33 per cent. Mortgage loan rates were capped by statute to keep costs down, and the interest rate ceiling on joint loans (i.e., whereby the mortgage loan was underwritten jointly by a financial institution and the federal government) was typically set at no more than 2 per cent above the yield on 12-year Canada Bonds.

Even as late as the 1950s, over 25 per cent of all Canadian households purchased a new or resale home without a mortgage, as Miron (1988) documents. Homeowership levels in 1941 were reported by the Census of Canada for Vancouver at 50% and for Toronto at 42.3%. At this time, Toronto had a much higher level of mortgage credit using second mortgages suggesting a constraint on overall mortgage loan amounts due to higher home prices and limitations on mortgage LTV. Although homeownership levels were higher in Vancouver, this does not mean that mortgage credit was evenly distributed among all neighbourhoods. The establishment of Vancity Credit Union in 1946 had a goal to direct mortgage lending into lower income neighbourhoods in Vancouver. Vancity would soon become the nation`s largest credit union. Since the 1950s, Canada`s credit union system has played a substantial role for many household groups that often had limited access to traditional mortgage financing sources.

A revision to Canada's NHA in 1954 replaced the joint (public – private) mortgage loans program with insured mortgage loans. The Canadian introduction of mortgage loan insurance "MLI" in 1954, which followed MLI in the U.S. by 20 years (1934), was an important change to housing finance, providing a safeguard for trust and loan companies to become mortgage lenders. The 1954 Bank Act amendments permitted banks to participate in residential mortgage lending by way of NHA insured mortgages.

2. THE FOUNDATIONS OF A LIBERAL AND FLEXIBLE HOUSING FINANCE SYSTEM

Up until 1967 and revisions to the Bank Act which took effect in 1969, life insurance companies, credit unions and trust and loan companies dominated the retail market for mortgage lending. In 1967, the Caisse de dépôt placement du Québec was established, and it expanded mortgage lending in Québec. However, there still was a need to modify the counter-cyclical behaviour in Canadian lending practices to better integrate mortgage credit with the capital market to increase the supply of mortgage funds eliminating sub-optimal financing constraints consumers often encountered in mortgage lending. For many baby boom households, the space constraints of a typical rental apartment made renting an inadequate option to meet housing services needs. Mortgage demand became more apparent with new condominium legislation in 1966 that permitted developers in some provinces to sell townhomes and apartment units in multi-family buildings. Moreover, with a demographic shift in Canada toward more urbanization of the population, which would even exceed that of the U.S., a more liberal and flexible housing finance system was needed to enhance homeownership options.

In 1969, when the constraints on mortgage lending were lifted, abolishing the interest rate ceiling (6 per cent NHA interest rate), banks could make uninsured mortgage loans and enter into the conventional mortgage market. The dominant role of banks as the primary mortgage lenders in Canada was due to expansion over the 1970s and 1980s and also the acquisition by banks of mortgage trust companies (permitted by 1992 Bank Act revisions) that experienced financial difficulty during the 1992 to 1994, as Freedman (1998) documents.

The 1980 Bank Act revision made a sweeping change in response to globalization by allowing foreign banks to incorporate subsidiaries in Canada and accept deposits. Prior to this, foreign banks could only operate in wholesale banking. This created a truly global competitive market for mortgage lending in Canada. However, mortgage loan costs could still vary and be subject to significant volatility that made mortgage credit risky for both lenders and borrowers. The majority of mortgage funding in Canada has come from savings deposits which account for the largest funding source for mortgage lenders, but with the increasing growth in equity and bond mutual funds in Canada the need for stable residential mortgage funding pressures was mounting. Additionally, homeownership incentives were moving forward in Canada such as the Canada Home Buyer Plan, first introduced in 1992, to allow a household to direct savings within a registered retirement plain to be used for the down payment in the purchase of a primary residence, adding to the demand for mortgage credit.

3. CAPITAL REQUIREMENTS AND TRENDS IN MORTGAGE SECURITIZATION IN CANADA

The first attempts to market mortgage backed securities “MBS” in Canada did not receive investor acceptance due to credit and prepayment risks. From 1961 to 1965 CMHC conducted 13 auctions of NHA mortgages to familiarize investment dealers with the instrument, but the experiment ended before the dealers took up a continual involvement in the secondary mortgage market, Poapst (1993). In 1973 federal legislation was introduced to establish a joint public-private market maker for mortgage securities but this was not acceptable to private investors. From 1981 to 1985 the secondary mortgage market for NHA insured mortgages averaged 10 per cent of NHA loans held outside CMHC and this accounted for $1.8 billion per year. However, many of these transactions were among affiliated organizations that were part of the mortgage loans origination. After 1990 the market among mortgage lenders was changing toward U.S. style of competition, specialized mono-line residential mortgage lenders and the need of financial institutions to meet capital reserve requirements, supporting the 1988 Basel Accord fully implemented in 1992. MBS and covered bonds (first issued by Royal Bank of Canada in October 2007) are two ways mortgage credit is integrated with capital markets in Canada. Covered bonds, which are common in Europe, are secured debt instruments that give bondholders both a claim on the issuing bank and a priority claim on the bond’s dedicated and specified collateral while being retained on the issuers’ balance sheet, with $1.43 billion issued by Canadian banks in 2009.

NHA MLI through the state provider of MLI, CMHC (there are also private MLI companies), allows financial institutions to remove mortgage assets from the balance sheet through securitization or keep these assets on the balance sheet, but with 100% default claims guarantee and 100% capital relief. CMHC is active in:

- NHA MBS which are created when a CMHC Approved Seller creates an eligible mortgage pool with the purpose of transforming the mortgages into securities which can be sold to investors. Approved Sellers are federally or provincially regulated mortgage lenders which meet a certain minimum net worth; or
- The Canada Mortgage Bond “CMB” program, which uses a special purpose trust, the Canada Housing Trust “CHT,” to purchase eligible insured mortgages packaged into newly issued NHA MBS pools and, compared to NHA MBS, converts the monthly amortizing payments into bond-like payments.

The CHT accesses the secondary mortgage market by selling non-amortizing CMBs to investors and using the proceeds to purchase NHA MBS pools from Approved Sellers. CMHC plays an integral role in the CMB program serving as the Guarantor and the Financial Service Advisor to the CHT. This includes establishing requirements that the CHT must meet in order to obtain the guarantee from CMHC and advising on the market demand for CMB issuance and engagement of an underwriting syndicate to underwrite the CMB issue. To provide investors with a bond-like investment, the CHT transforms the monthly cash flows from NHA MBS pools collected by MBS Sellers on behalf of the CHT into non-amortizing bond cash flows with fixed, semi-annual interest coupon bond payments over the CMB term and the repayment of principal at maturity. A Central Paying Agency acts on behalf of the CHT to collect monthly payments from NHA MBS purchased by the CHT and oversee the administration of cash flows. A key benefit of the CMB program is that mortgage assets can be replaced by the issuer in the case of prepayment, provided they are of the same risk and duration, fully utilizing the MBS fee, for example, paid on a 5-year mortgage pool.

The CMB program was evaluated by KPMG for CMHC in June 2008 and the conclusion was that the cost of funds obtained by banks through the CMB program was about 18 basis points less than the next lowest cost of long-term wholesale funding. The use of NHA MBS and CMB has risen since 2000, when less than $50 billion was reported outstanding, due to increasing demand for mortgage credit and the 2007 financial crisis which resulted in the Government of Canada creating the Insured Mortgage Purchase Program, from October 2008 until March 2010, to maintain the availability of Canadian lending credit by purchasing up to $125 billion in NHA MBS from Canadian financial institutions through a competitive reverse auction process managed by CMHC, of which $69.35 billion was purchased during the Program's period. At the end of 2009 there was approximately $965 billion in residential mortgage credit outstanding in Canada, with $298.3 billion of NHA MBS and $175.6 billion CMB. Private label MBS only accounted for about $24 billion of mortgage credit.

Prior to MBS and the CMB program, annual mortgage loans approvals in Canada averaged $400 million between 1949 and 1953 increasing to $18 billion annually between 1981 and 1985. More recently, in 2007, supported by NHA MBS and the CMB program, annual mortgage approvals in Canada were reported at $219 billion and in 2008 at $216 billion, making Canada the second largest mortgage market in the world.

4. DIFFERENCES IN CANADA AND U.S. HOUSING FINANCE SYSTEMS

U.S. mortgage lending with its fixed-rate 30 year mortgages was impacted by Regulation Q, a legislated interest rate ceiling on deposits phased out in the 1980s, and a decline of depository share of mortgage lending, while Canadian residential mortgages are rollover loans that typically amortize over 25 or more years. Canada did expand mortgage innovation and securitization in the 2000s, with subprime mortgage lending only reaching 5 per cent of annual originations, Tal (2006). According to the Canadian Bankers Association, by May 2010 residential mortgage loan arrears rates in Canada were reported at 0.44 per cent. Housing finance in the U.S. was expanding securitization and exotic mortgage products such as adjustable rate 30-year "ARM" mortgages with teaser rates. U.S. subprime mortgage lending, often to borrowers without documentation and an impaired credit rating, supported by credit derivatives, reached 25 per cent of U.S. originations between 2004 and 2006, Green (2008) and Shiller (2008). The end result, according to the Mortgage Brokers Association of America, was a delinquency rate on one-to-four-unit residential properties of 9.47% for mortgage loans outstanding year end 2009, with 20% of mortgages in Florida 90 days in arrears and 19% in Nevada 90 days in arrears.

5. THE OUTLOOK FOR HOUSING FINANCE IN CANADA

Canada housing finance is a market system that no longer requires government subsidy, except for special needs housing. Mortgage credit is integrated into the capital market and NHA MLI provides an important credit enhancement. More refinements will flow from a series of regulatory changes introduced by the Department of Finance in October 2008 for NHA MLI. These policy changes eliminated mortgage loans with no amortization in initial years, set a maximum LTV of 95 per cent, set a maximum amortization of 35 years, put a ceiling on the total debt service ratio for mortgage borrowers at 45 per cent, established a minimum credit score and loan documentation standards, and a maximum equity refinancing at 90 per cent LTV was regulated in 2010.

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EARTH SYSTEM GOVERNANCE IN SOUTH ASIA: DESIGNING CROSS-SECTOR COLLABORATION

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ABSTRACT

The example of the U.S. and India is provided to define the current geopolitical situation between developed and developing countries, with cross-sector collaboration identified as a strategy for addressing environmental sustainability in South Asia. Earth system governance is proposed as a structure for addressing environmental sustainability and the overarching goal of providing an environment in South Asia that can sustain future generations.

Keywords: *Earth system governance, Cross-sector collaboration, Environmental sustainability*

1. INTRODUCTION

South Asia's pursuit of economic development has exposed the fragility of the physical environment in the region, with environmental degradation and overuse of natural resources posing possible constraints on sustaining the food supply needed to support the rapid growth in population (Alauddin, 2004). With the establishment of the South Asia Free Trade Agreement (SAFTA) and trade and economic development institutions, such as the South Asian Association for Regional Cooperation (SAARC) (Kelegama and Adhikari, 2005), the timing is propitious for designing mechanisms in support of earth system governance in South Asia, which are also complementary of sustained economic development and the alleviation of social problems, such as poverty.

1.1 Defining Earth System Governance and Cross-Sector Collaboration

Earth system governance can be defined as "the sum of the formal and informal rule systems and actor-networks at all levels of human society (from local to global) that are set up to influence the co-evolution of human and natural systems in a way that secures the sustainable development of human society" (Biermann, 2006). In essence, the goal of earth system governance is to "analyze and design governance systems that can adapt to changes in monsoon patterns and other large-scale breakdowns of ecosystems" (Biermann, 2006), while also implementing collective action to address current ecological challenges. As conceptualized in the *New Delhi Declaration of Principles of International Law Relating to Sustainable Development*, the normative aspiration of earth system governance is sustainable development, with its triangle of ecological, economic, and social sustainability (International Law Association, 2002). Its measure of success is the providing of an environment that can sustain future generations.

This paper suggests that, given the scale, complexity, and urgency of the sustainability challenge in South Asia, cross-sector collaboration (private, public, and nonprofit sectors) is a necessary mechanism for sustained, broad-based societal support of earth system governance in South Asia. Gray (1989) defines collaboration as a "process through which parties who see different aspects of a problem can constructively explore their differences and search for solutions that go beyond their own limited vision of what is possible." Trist (1983) notes that collaboration is most likely to occur when problems are complex, wide in scope, and beyond the means of single organizations to solve unilaterally. Waddock (1991) refers to these "problem domains" (Trist, 1983) as "indivisible problems" which, as a result, require the efforts of two or more sectors in a forum in which they cooperatively attempt to solve a problem or issue of mutual concern that offers identifiable benefits for all participants, either directly or indirectly.

Recognizing the seemingly inextricable linkage between economic development and the environment, the design in this paper involves a two-step approach including the geopolitical sphere of South Asia (specifically, India in this case) trade relationships and politics (specifically, the U.S. in this case), as well as cross-sector collaboration on a local, regional, national, and global scale and scope.

In this context, the dynamic GDP growth of most SAARC countries in recent years, as well as the increasing power of India in WTO, multilateral, and bilateral trade negotiations, reflects the growing importance of South Asia on the global stage. However, economic growth in South Asia is in tandem with the burgeoning growth in population, which together imposes an increasing burden on the natural resource stock, resulting in degradation of the natural environment. From the perspective of earth system governance, this interaction of economic growth and natural resource depletion raises the central question of how a sustainable existence can be provided for future generations regionally and globally.

1.2 Theory Identification

Thus, this paper recognizes a gap between geopolitical factors, in which the dynamic growth of GDP in South Asia presents a new dimension in trade and economic relationships particularly with the developed economies, and the growing problem of environmental resource constraints and degradation, which demands a greater focus on cross-sector collaboration as a design mechanism to assist in managing sustainable ecosystems. In developing the design concept for addressing earth system governance in South Asia, this paper draws on institutional theory (Greenwood and Suddaby, 2006; DiMaggio and Powell, 1983; Meyer and Rowan, 1977) to address relationships in the geopolitical sphere, as well as among the government, private, and nonprofit sectors. Strategies for linking the geopolitical sphere with cross-sector collaboration are developed through approaches to regime theory (Hasenclaver, Mayer, and Rittberger, 1997; Keohane, 1984) in which international cooperation is based on evolving norms that support collective action (Wijen and Ansari, 2007). Finally, concepts from social marketing (Ling, Franklin, Lindsteadt, and Gearon, 1992) are drawn upon to implement strategies of cross-sector collaboration.

Ultimately, the objective of the paper is to provide a conceptual design for adapting economic, as well as political, governance systems to support earth system governance, with a particular focus on stewardship of earth's natural resources in order to support future generations.

2. MAIN BODY

2.1 The Geopolitical Perspective

During her recent visit to India, U.S. Secretary of State Hillary Clinton was told in a public exchange with India's Environment Minister, Jairam Ramesh, that India would not accept internationally set emissions limits or targets and that India should not have to pay for cleaner air because the developed countries caused the problem (Crossette, 2009). Minister Ramesh strongly opposed any limits on India's industrial sector, viewing the proposed emission limits as potentially stifling to the economy (SOS-USA, 2009).

During this trip, private sector executives in India expressed a strong interest to Secretary Clinton in sharing energy and environmental technologies. Secretary Clinton also indicated that anti-poverty programs and environmental clean-up need not be mutually exclusive (Crossette, 2009). Meanwhile, the head of the Intergovernmental Panel on Climate Change, Rajenda Pachauri, excoriated the U.S. for including a carbon tax on imports into the U.S. from countries [including India] that do not take steps to reduce carbon emissions, as stipulated in legislation passed recently by the U.S. House of Representatives (Johnson, 2009).

These interactions say a great deal about geopolitical relationships between South Asia (India, in this case) and developed countries (the U.S., in this case). Traditionally, multinational organizations such as the World Bank, IMF and, more recently, the World Trade Organization, have deferred to the policy preferences of the developed countries. This preference can be explained by the institutionalization of these organizations, in which developed countries tended to have the longest and most involved participation. Indeed, many of the developed countries were involved substantially in creating these multinational organizations which, at their origins, focused primarily on recovery and reinvestment in the post-World War II environment. Thus, from an institutional theory perspective, these organizations isomorphized toward the prevailing practices and procedures in their institutional context (Meyer and Rowan, 1977). Particularly in periods of dynamic change, organizations may isomorphize toward the behavior of other organizations in their environment either through a "taken for granted" adoption of commonly accepted practices, or as the result of decision makers being unconsciously compelled to take certain actions that mimic the behavior of other organizations in their environment (DiMaggio and Powell, 1983).

Against this backdrop, in recent years developing countries, particularly India and China, have grown considerably in terms of economic and geopolitical power. Whereas India and other SAARC nations struggled in developing a trade regime in South Asia since the origination of SAARC in the 1980s, India has recently ascended to a much stronger leadership role in South Asia and has become increasingly assertive in WTO and other trade negotiations (Das, 2007). Greenwood and Suddaby's (2006) description of "central" and "peripheral" organizational players serves as a corollary to the "developed" and "developing" country relationship. Central players are embedded in institutional contexts, while peripheral players are less connected to other organizations, from which norms are learned, and thus are less aware of institutional expectations. In this context, resource-rich central players such as the U.S. have interests that are aligned with current practices and are neither motivated to change, nor aware of, or open to, alternatives. Peripheral players, such as India, are often disadvantaged by prevailing arrangements and stand to benefit from change. Greenwood and Suddaby (2006) conclude that change will occur where contradictions are most acute, such as where incompatible values conflict or where actors are disadvantaged. In the current context, a consistent result would entail a shift to the status quo between developed (U.S.) and developing (India) countries, at least in terms of the treatment of environmental issues. In this particular situation, the result would be, predictably, for the U.S. to exert pressure on India to adopt cap and trade policies or face trade barriers, as imposed by the U.S. House of Representatives. In the parlance of U.S. domestic politics, this is referred to as fair trade. Interestingly, U.S. Senator John Kerry has indicated that the carbon tariff will be removed from congressional cap and trade legislation when the Senate considers the bill passed by the lower chamber, indicating that, at least for now, the U.S. does not want to risk disrupting trade relationships with India.

Thus, at least in this situation, the status quo is no more. How then, can the U.S., India, and other sovereign nations collaborate on energy conservation and environmental sustainability which, ostensibly, are the goals of the cap and trade concept? The U.S. understands that a cap and trade policy in the U.S. will have relatively little impact without India and China enacting similar policies. However, India and China are reluctant to follow suit and, politically, sense they do not need to comply, given their status as global economic powers. India must pursue strong economic growth in order to meet the needs of its rapidly growing population in which a significant percentage subsist at, or below, poverty level. The natural environment is a concern as well, despite India's unwillingness to adopt a cap and trade policy. For example, at the Fourteenth SAARC Summit held in New Delhi in 2007, the delegation expressed deep concern about the continued degradation of the environment and the need to collaborate on global climate change and renewable energy resources, as well as the continuing decline in natural resources and land availability in the SAARC countries (SAARC Tourism.org, 2007). Thus, while cap and trade is not a preferred policy in India (and other SAARC countries most likely), the issue of environmental sustainability is an important priority.

Conditions have changed in the U.S., as well. In a previous generation, the U.S. government would have extended assistance to SAARC countries and, it is hoped, developed rapport leading to greater cooperation on energy and environmental policy. However, as Kettl (2000) notes:

> "Over the last generation, American government has undergone a steady, but often unnoticed, transformation. Increasingly, American government shares responsibility with other levels of government, the private sector, and nonprofit organizations. So, while the basic structure of American government hails from President Franklin Roosevelt's New Deal era, environmental regulation (which did not exist during the New Deal) involves complexities such as defining air, water, and soil regulation on separate tracks, but then somehow merging these three separate processes into a single, coherent environmental policy. Additionally, New Deal-era American government did not face the challenge of indirectly managing policy through other entities, such as the private sector and nonprofits. [The structure and processes of American government cannot effectively manage these increased, diverse demands.] However, expectations for American government to perform have not changed, despite the fact that the organizational structures and processes of American government no longer fit its mission."

2.2 Designing Cross-Sector Collaboration

This leaves the remaining option of voluntary initiatives. There are some examples of Indian – U.S. cross-sector collaboration in addressing environmental and social issues. For example, SOS India, an Indian nonprofit organization, has partnered with Coca-Cola for Rain Water Harvesting projects. Through these projects, SOS Children's Villages, dedicated to caring for orphans in India and around the globe, and Coca-Cola seek to convert rain water into suitable drinking water for India's population (SOS-USA Press Releases, 2009).

But in order to address earth system governance on the scale and scope necessary, the design must link the legitimacy and power of national, regional, and global governmental units with the on-the-ground implementation capabilities offered by cross-sector collaboration. Wijen and Ansari (2007) offer collective institutional entrepreneurship as a vital design link. Drawing on Mollering (2007), Wijen and Ansari (2007), define collective institutional entrepreneurship as the process of overcoming collective inaction and achieving sustained collaboration among numerous dispersed actors to create new institutions or transform existing ones. They draw on regime theory (Hasenclaver et al., 1997, Keohane, 1984) to explain how actors, generally at the state level, overcome the collective action problem (free ridership, apathy, etc.) and realize collaboration in areas serving their common interests with or without the presence of a supranational authority. Regime theory further explains collective institutional entrepreneurship by aligning it with international institutions, particularly those involving multi-level governance formed around a common issue or interest, such as earth system governance. Regime theorists identify additional mechanisms for inducing cooperation at the collective level, such as linking issues and making side payments. For example, the apparent deadlock between the U.S. and India over cap and trade policies could be addressed by linking concessions on WTO trade issues with climate change agreements, other than cap and trade. Or, the U.S. could make a side payment of providing technology addressing agriculture productivity and land preservation in South Asia with agreements to purchase U.S. technology designed to fuel electric power generators with cleaner energy. Both of the state-level approaches could lead to sustainable benefits for all parties and provide the platform for collective entrepreneurial efforts, such as cross-sector collaboration, to further energy conservation and environmental sustainability.

The development of a platform by national, regional, and global governmental units has the potential to institutionalize cross-sector collaboration, by extending the legitimacy and power of these units through communicating values and aspirations, such as the SAARC delegation's pronouncements on environmental degradation and poverty alleviation. These units can also provide technical assistance in addressing regulatory, legal, and cultural barriers that could stifle entrepreneurial collaboration. In essence, in this design model, governmental units serve as bridging organizations which, in providing assistance and ongoing information flows, can lower the costs of collaboration and conflict resolution, while avoiding the higher transaction costs of a government-run effort. An example is the Asia-Pacific Partnership on Clean Development and Climate, a voluntary public-private partnership among seven major Asia-Pacific countries – Australia, Canada, China, India, Japan, Korea, and the U.S. – that are cooperating in an effort to address increased energy needs and the associated issues of air pollution, energy security, and climate change. A Policy and Implementation Committee oversees the partnership as a whole, guides eight Task Forces, and provides direction to the Administrative Support Group. Created in 2005, the Partnership has endorsed 123 projects, including support for implementation of an energy efficiency endorsement labeling program for India, a public sector market assessment for improving energy efficiency in public buildings in India, and regional efficiency centers in India. Another project would establish an information exchange network for continuous revision and improvement, which is designed essentially to support market transformation initiatives (Asia-Pacific Partnership, 2009).

In addition to public-private partnerships, the role of nonprofits in environmental efforts continues to grow in both developed and developing countries. For example, two nonprofits from India received the first Green Energy and Green Livelihoods Achievement Award in 2009 from the Sierra Club, the oldest and largest grassroots environmental organization in the U.S. The award will be shared between Ecosphere Spiti from the mountainous northern state Mimachal Pradesh Spiti valley and Barefoot College from the desert state Rajasthan, led by social entrepreneur Bunker Roy. Ecosphere Spiti conserves the valley, while Barefoot College has trained rural men and women as Barefoot Solar Engineers. They have built and installed solar units in 10,000 households, covering 574 villages across 16 Indian states (Trading Markets.com, 2009). Historically, nonprofits in India evolved from efforts to obtain greater “people’s participation” through the establishment of cooperatives by government, the movement of Mahatma Ghandi, and religious organizations (Fernandez, 2002). Currrently, over 2000 NGOs involved in environment, sustainable development, and nature protection are listed in the Envis Centre on NGOs, Parliament and Media (Envis Centre, 2009).

Thus, while business-NGO partnerships are an established practice in developed countries such as the U.S. (e.g., Environmental Defense Fund and McDonald’s); in South Asia countries such as India, similar partnerships are now taking root.

Ideally, both parties in business-NGO partnerships provide complementary benefits. For example, while the profit motive of private sector entities can raise concerns about being exploited and slow down commitments and rapport building, NGOs, as well as the government in some cases, can hasten credibility, while benefiting from private sector resources and marketing skills. An example of a successful cross-sector collaboration is a partnership involving Usha Martin, Lupin, the Tatas, Confederation of Indian Industry, United Nations Development Program, and the Ministry of Non-Conventional Energy Sources. This partnership is harnessing renewable energy to meet the entire energy needs of clusters of villages in Rajasthan and Jharkhand. Each partner has brought certain skill sets to the table. The perspective is that each partner, big or small, needs to be equal at the table to make sure the relationship keeps going (Karunkaran, 2006).

As is suggested here, voluntary initiatives, many involving cross-sector collaboration, are accepted practice. However, the issue remains the scale, complexity, and urgency of the environmental sustainability challenge. Too often, as the complexity of interactions in the social-ecological system increases, and as the consequential demand for large-scale, massive change grows more urgent, institutional isomorphism takes hold and organizations react by pursuing incremental, path dependent investments resistant to change (North, 1990). Instead, an earth system governance approach would seek to replace economic stagnation, short-term interests, and re-emerging nationalism with global governance and collective stewardship of the earth. Multi-level governance must take hold in a manner that leads to exponential growth in informal networks of relationships to provide the flexibility, adaptiveness, and transformative potential to support the needs of future generations.

There have been notable examples of social movements that have led to social change. One of the tools for implementing social change is social marketing, which combines the integrated planning and action framework characteristic of traditional approaches to social change with the recent advances in communications technology and marketing skills (Kotler and Roberto, 1989). An example is the nationwide contraceptive social marketing program, the Nirodh condom project in India, which began in 1967 with funding from the Ford Foundation (Ling, Franklin, Lindsteadt, and Gearon, 1992).

In sum, the challenge of cross-sector collaboration is to encourage participation, recognizing that addressing collective-action problems is a costly and time-consuming process that needs to be carried out over a long-term period (Ostrom, 1998). As noted by Parker and Selsky (2005), differences should not be treated as deviations, but as part of an emergent-culture approach, which highlights the active, negotiating work of boundary-spanning organizations. This encourages relationships that maximize cooperation. Cooperation, in essence, is what Gray (1989) implies in further defining collaboration as “the constructive management of differences, which can be used efficiently in the resolution of multi-stakeholder conflict and the advancement of shared visions.”

3. SUMMARY

This paper concludes that, at least in the case of environmental sustainability, status quo approaches no longer can be relied upon. Instead, the cross-sector collaboration is presented as a mechanism designed to address the scale, complexity, and urgency of the environmental sustainability challenge in South Asia. Earth system governance offers a conceptual approach for addressing the overarching goal of providing a sustainable environment to support future generations. The design put forth in this paper identifies a role for national and international governmental bodies in providing coordination and support for cross-sector collaboration, with the Asia-Pacific Partnership on Clean Development and Climate serving as a model. Conceptually, the earth system governance approach would seek to replace economic stagnation, short-term interests, and re-emerging nationalism with global governance and collective stewardship of the earth.

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GETTING OFF ON THE RIGHT FOOT: A CASE FOR FIRST-YEAR SEMINARS

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ABSTRACT

Every student's successful college career begins as a first-time freshman. According to many accrediting agencies, the future accomplishments of these freshmen are closely linked to the accomplishments of the university. This explains why most universities and colleges are establishing intricate strategic plans detailing the connections between organizational missions and educational objectives. The First-year Seminar can be used to support many of the typical educational objectives. For example, the First-year Seminar can facilitate academic performance and retention through information on time management techniques, effective learning strategies, library resources usage, student support services, campus life engagement, financial problem avoidance, and occupational interests. Additionally, faculty and administrators may be interested in how much students increased their knowledge and skills as they progress through the curriculum, and the first-year seminar provides a base measurement of this knowledge transition process. Specifically, the First-year seminar is shown to increase student interactions with faculty, peers and the campus while also enhancing student learning strategies and improving students' physical and mental wellness.

Keywords: *First-Year Seminar, Assessment, First-Year Outcomes, Student Learning*

1. INTRODUCTION AND LITERATURE REVIEW

"The secret of getting ahead is getting started." -Mark Twain

Every student's successful college career begins as a first-time freshman. According to many accrediting agencies, the future accomplishments and outcomes of these freshmen are closely linked to the accomplishments and outcomes of the university. In the age of accountability in higher education institutions and their business schools, there are several outcomes that are important. Universities are monitored on retention and graduation rates, business schools are measured on student learning goals, and business students focused on their return on investment. There are many factors that influence attainment of these goals, but they can be positively influenced by the inclusion of a First-year Seminar. This course can serve as the foundation for success in and beyond college. For instance, research suggests that First-year seminars increase student retention (Pascarella & Terenzinin, 2005; Ishler & Upcraft, 2005) as well as improve academic performance and positive social network development (Keup & Barefoot, 2005). Resultantly, 88% of U.S. colleges and universities offer a graded first-year seminar to incoming students (Cuseo, 2006).

Additionally, during the first semester of college, many students separate from their families of origin, transition from their homes to the university, and attempt to become integrated in an unfamiliar setting (Bigger, 2005; Tinto, 1993). The first-year seminar can serve as their main connection to the university (Bigger, 2005; Schroeder, 2003). Such a connection is needed, as research indicates a sense of belonging translates into student ability to thrive and succeed (Astin, 1985; Cuseo, 1997; Bigger, 2005). According to Petschauer and Cuseo (2009), there are four ways to provide this connection. There is the (1) student – campus connection (the identification and employment of available resources in and around the campus community), (2) student – student connection (a creation of a sense of community in the learning environment with a peer mentor in each classroom), (3) student – instructor connection (a personal relationship between the student and the instructor with a maximum number of 25 students in each section), and (4) the student – course connection (an increased student interest and involvement in the course through active learning).

Research suggests that the 2-credit hour First-year Seminar can provide this connectivity. Not only does this format increase student interactions with faculty, peers and the campus, it also has been shown to enhance student learning strategies and improve students' physical and mental wellness. In comparison, the 1-hour seminar format has a restricted orientation outcome of increasing knowledge of campus resources, policies and practices. The most positive outcomes are associated with seminars of 3-credit hour length due to the opportunity to foster student's critical thinking. However, many universities may opt for the two hour format for a variety of reasons (i.e., Swing, 2002). First, the economic costs of a more expanded option are often prohibitive. Second, the political realities often are that governing bodies would prefer fewer hours in the curriculum rather than more. Third, as the First-year Seminar typically is part of the general education curriculum, other courses are better positioned to focus more specifically on higher-order cognitions.

Within higher education, many first-year seminars share similar goals. They strive to enhance academic skills; orient students to resources on campus; enhance interactions with peers, faculty, and staff; encourage career development; and develop a sense of campus community (Hunter & Linder, 2005; Tobolowsky, 2008). However, in this time of accountability, the university's goals need to drive the first-year seminar outcomes. That is, first-year seminar learning outcomes should reinforce retention and graduation rates. Retention can be enhanced, not only through connectivity, but by avoidance of financial problems. Also, speed to matriculation can be improved though successful study techniques which mitigate the number of Ds, Fs, & Ws and by settling on a major early in the college experience.

2. PROPOSED FIRST-YEAR SEMINAR OUTCOMES AND APPROACHES

A set of student learning outcomes which would support retention and graduation rates include: (1) know and apply time management techniques and effective learning strategies; (2) select, locate and evaluate information resources held in the library and in digital formats; (3) identify available student services and locations of support units offering services and resources; (4) determine occupational interests, and research and evaluate information about career paths; and (5) demonstrate techniques for establishing and maintaining a balanced budget. Specific approaches to these student learning outcomes are as follows:

2.1 Time Management and Learning Strategies

College students are challenged to manage their time with far more independence and less accountability and structure than when they were in high school. Additionally, new facets of time management competence must be developed early in college to assure successful matriculation. The 2006 National Survey of First-Year Seminars indicates that 28.6% of universities consider time management to be one of the three most important topics to include in the first-year seminar (Tobolowsky, 2008). The importance of time management as an included topic is further reflected in its frequent inclusion in seminar textbooks. Furthermore, goal setting skills are foundational to successful time management and to maximizing one's success. The literature in management clearly establishes that goal type impacts subsequent task performance (Locke & Latham, 2006). Kuh (2005) identifies motivation as one of the critical elements supporting student engagement. Given the objectives of increased student engagement, enhanced performance, and successful matriculation, it is essential to provide students not only knowledge about goal setting and motivation enhancement strategies, but also practice in implementing these strategies in the context of university life. The outcomes and strategies also should take into account millennial students' preference for structure and participative decision-making (Howe & Strauss, 2000).

To improve their time management practices, students can be taught time management skills such as stating intentions, task partitioning, and scheduling low and high priority items appropriately. Students can be asked to complete a time log which allows them to sample how they spend time on varying days. They can also be asked to assess whether their time usage is in accordance with their values and their personal goals for the semester (Kearns & Gardiner, 2007). The instructor can request that students apply goal-setting and/or problem-solving skills to their analysis of how they might change their time scheduling practices. Further, students can be helped to find different ways to meet the needs currently addressed by their time management practices, allowing an opportunity for problem-based learning to occur. In addition, students should be given an opportunity to complete a values assessment, learn the SMART formula (Specific, Measurable, Attainable, Results-oriented, & Target-dates; Kinicki & Williams,

2009) for evaluation of goal achievability, and select among strategies to apply to a goal, such as campus engagement. Insight into personal values can be achieved through online resources (e.g., www.career-test.biz/values_assessment.html). Once identified, printouts cataloguing student values can be placed in a portfolio along with the work values assessment completed as part of the career assessment exercise which will discussed later. Both sets of values can be used in career and life- planning activities. Motivational strategies will be presented to students to help them to work toward goal attainment. Students should learn about the Premack principle (Premack, 1965), self-reward, self-monitoring, and contracting techniques (Miltenberger, 2004).

Instruments such as the LASSI (Learning and Study Strategies Inventory) can be used to help students diagnose individual strengths and weaknesses in learning styles. Students should be encouraged to develop a plan for maximizing their strengths and mitigating their weaknesses, based upon their individualized feedback on the 10 LASSI scales. The LASSI provides a starting point for students to understand their learning styles. Students also need techniques and strategies that help them to overcome study skills deficits (Caneo, 2006). Thus, students should be taught test-taking skills and study strategies to enhance their academic performance potential. Optimally, the students can use goal setting and evaluation strategies to develop an effective plan for academic skills improvement.

2.2 Information Literacy

Information literacy can enrich student engagement and academic success and is also an essential skill for college graduates entering the workplace. Information literacy is defined by the Association of College and Research Libraries (2000) as the ability to recognize when information is required and have the ability to locate, evaluate, and use effectively the needed information. Also requisite to information literacy is the understanding of economic, legal, and social issues surrounding the access and use of information. Emerging as a critical component of information literacy is awareness of the ethical implications of information development and application. In the academic setting, demonstration of integrity in all scholarly work is fundamental to our system of higher education. Resultantly, course content should address the forms and consequences of academically dishonest behavior.

Additionally, students should be taught to define library terminology and to utilize and evaluate the information resources available inside the library as well as outside in the virtual world of digital information resources. Library tours and specialized bibliographic instruction experiences may supplement in-class learning. Students should be asked to complete an assignment that allows them to apply their knowledge and demonstrate acquisition of the information resource skills.

2.3 Campus Resources

College students must successfully engage in the university experience to maximize their college success (Cuseo, 1997; Kuh, 2005). Successful engagement requires a working knowledge of campus resources, according to participants in the 2006 National Survey of First-Year Seminars. Survey participants selected campus resources, academic planning and advisement, and college policies and procedures in the top ten of those topics cited as most important to include in a first-year seminar (Tobolowsky, 2008). The first-year textbooks contain limited attention to campus resources given that these vary in name and function across universities. Thus, faculty, staff and student perceptions of freshman needs are particularly critical in selecting content to support engagement. In the academic domain, students must understand how the seminar fits within the general education context and what the requirements and learning outcomes are in the core curriculum (Hunter & Linder, 2003).

2.4 Career Planning

Career planning is of high importance to millennial-generation college students, and was identified in a recent survey as one of the three most important topics to include in a First-year Seminar by 17% of respondents (Tobolowsky, 2008). It's never too early to begin career management. And even though, non-traditional students often arrive on campus with a more clearly defined career choice, they still need help creating an effective career plan that takes into account their multiple life roles (National Career

Development Association, 2008). Career planning can be informed by the theories of Super and Holland (Zunker, 2001). Seminar coverage should focus on aiding students in attaining and preliminarily applying career development knowledge. Most of the seminar's emphasis can be derived from the National Career Development Association's (2007) personal/social development domain, which focuses upon self-awareness and discovery. Beyond the personal/social domain is the career management domain which focuses on career planning and the successful implementation of a life career plan. The last step in the career development process is reflection.

Students can participate in career assessment utilizing such software as FOCUS-2, a career and education planning system. This software allows students to assess interests, abilities, and work values (and save this personal information). Additionally, FOCUS-2 helps students evaluate the fit between careers of interest and their personal work values and abilities. FOCUS-2 can also be used to gather information about careers, compare careers, and articulate majors to careers. Students interested in further career planning services or those who generate ambiguous or inconsistent profiles should be encouraged to meet with university staff from career planning/services.

2.5 Money Management

While money management is not among the topics benchmarked as most important to include in a seminar (Tobolowsky, 2008), fiscal prudence and budget maintenance seem an important skill deserving of coverage as financial problems can cause students to withdraw from college. Students should be requested to develop a balanced budget. In addition, instructors may choose for students to undertake a learning experience to address one of the optional learning outcomes. CashCourse resources (sponsored by the National Endowment for Financial Education) or similar credible sources will be made available to students to assist them with this area of skill development.

3. CONCLUSION

Many high school graduates enter college with the hope and expectation of one day attending a commencement ceremony as a college graduate. However, few seem to recognize that the attainment of that college degree begins on the first day they set foot on campus. First-year seminars should be designed to aid student transition from high school to college. Furthermore, First-year seminars can provide some essential tools for ensuring not only student, but also university success. As colleges and universities are held to increasingly higher standards for student outcomes, administrators continue to seek more accurate and tangible measures of student performance. More specifically, this seminar can facilitate academic performance and retention through information on time management techniques, effective learning strategies, library resources usage, student support services, campus life engagement, financial problem avoidance, and occupational interests. The attainment of these critical personal and professional management skills significantly improves a student's likelihood for academic success.

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ACKNOWLEDGEMENTS:

The authors would like to thank the following individuals for their input: Kimberly Billeaudeau, Carolyn Bruder, Paula P Carson, Paul Eaton, Julia C. Frederick, Lucy C Gammon, Dedria Givens-Carroll, Paula Montgomery, Melinda Oberleitner, Susan Richard, and David Yarbrough.

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INSTITUTING ORGANIZATIONAL CHANGE FOR SUSTAINABILITY: A FORMATIVE ETHNOGRAPHIC CASE STUDY FOR TRANSFORMATION

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ABSTRACT

Transformative change within an established organizational construct, attendant organizational culture as well as an accepting organizational climate requires a disciplined approach for sustainability. Many change management initiatives within various organizations fail to become inculcated in the culture or operational framework resulting in an inability to sustain the change for continual benefit. The inability for sustainability of change may be based on multiple factors, but it is the premise of this formative ethnographic case study that a systemic thinking approach may improve the opportunity for sustained benefits to the organization. This paper presents a formative, and in process ethnographic case study of a major transformative change initiative within a global manufacturing enterprise. The premise for attaining sustained benefit of the transformative change is based on an emerging theoretical construct introduced as part of this paper which includes a systemic thinking approach of the interrelationship and dependence between innovation, socialization and commercialization (or institutionalization as the case may be). For the context of this research, institutionalization and commercialization are used interchangeably and refer to the ability of ensuring the acceptance and utilization of the major change initiative throughout the organization.

Key words: Transformational change; Organizational change management; Sustainability

1. INTRODUCTION

The ability to innovate requires individuals and organizations to look at how things can be done differently, and in some cases, do different things to achieve positive results (Ackoff, 1974). Although this may appear quite straightforward, other factors influence how change is eventually ingrained within the organizational construct, and more importantly, institutionalized for sustained benefit. Inherent within this need for institutionalization of positive change via sustained transformation is a requirement to socialize the change among various, and potentially disparate stakeholders. Progressive systemic thinking posits that emerging innovation is based on value creation focused on individuals, different than prior thinking based merely on the innovation of products and services (Prahalad & Krishnan, 2008). Given these variables, it appears that innovation requires a level of socialization before the innovation can be commercialized throughout the organization.

With this premise of required socialization, a large global manufacturer of heavy equipment sought to gain more immediate and reliable insight into the various components, suppliers and state of build during their manufacturing process. The objective was to reduce the cost of inventory while expediting time to market, resulting in reduced bottom line cost. A real-time visibility system, similar to one presented by Prahalad & Krishnan (2008) was designed, developed and initially tested at this global manufacturer. The currently developed iteration of this real time visibility system benefited from several prior attempts, which were not successful for various reasons. Through observation and discussions with leading change agents within this global manufacturing organization, prior attempts suffered from a lack of commitment from disparate stakeholders, technological inefficiencies, project cost overruns, and an inability to present a viable "pilot" implementation to overcome these inherent obstacles.

In support of this innovative real-time visibility initiative, and to remediate the past unsuccessful attempts, a working prototype was rapidly developed (to display the innovation required); presented throughout the organization to potentially non-supportive stakeholders (initial stages of organizational socialization), and a subsequent rollout plan was developed in a staged manner (to remediate potential cost overruns). The current state remains within the socialization phase, while a more robust deployment plan is currently underway. It is the intent of this research to establish the foundation for a three phased approach for sustained transformational change which includes innovation, socialization and commercialization (or institutionalization). It is inconclusive at this point based on the current state whether this formative approach will succeed. It is conclusive the innovation and initial socialization stages have been successful based on initial cost saving projections from the pilot program; the adoption of the solution for additional site rollouts; as well as the garnered support from past unsupportive stakeholders within the organization.

2. A THEORETICAL PERSPECTIVE

An ethnographic case study approach (Van Manaan, 1979; Yin, 2003), has been utilized to ascertain the systemic requirements for successful transformative change in a smaller entrepreneurial organization (Becker, 2007). A substantive finding from the previous research was the requirement for clear, concise and consistent communication among the key stakeholders for successful and sustainable transformative change. Communication challenges for larger, globally dispersed organizations have been identified and validated within this global manufacturer based on prior unsuccessful attempts in implementing a real time visibility system for their supply chain. Therefore, the current socialization process has placed greater emphasis on the need for crisp, continual and consistent communication. Typically the communication challenges associated with transformational leadership have foundational elements consistent with historical leadership challenges that include search, confrontation and coping. Although these challenges exist, the transformational leader is currently faced with attempting to have empathy with faceless followers resulting in trust building obstacles, as well as continual understanding and assimilation of information from dispersed sources. Applicable concepts pertaining to socialization efforts within this case study include the use of the five senses, empathy with the followers, rapid understanding of data points, and the development of trust in the relationship (Covey & Merrill, 2008; Lippitt, 1988).

Innovation through the use of technologically advanced solutions has allowed the global manufacturer to gain greater insight to their supply chain as evidenced through the initial pilot program. The proliferation of new technologies has enabled a new era of innovation, operating beyond traditional organizational constructs as well as standard hierarchical management, where transformative change using widely distributed multi-minded (Gharajedaghi, 2006) approaches are required. Gharajedaghi & Ackoff (1984) initially posited that this type of understanding would enable creativity whereby future innovation could be co-created (Prahalad & Ramaswamy, 2004) resulting in substantive, sustainable and transformational change beyond just information and knowledge. Through such sustainable transformational change initiatives, innovative organizational leadership could cooperatively interact by understanding and assimilating new and innovative technologies towards maximum benefit for their organizations. The ability to innovate, and ultimately proliferate that innovation throughout the organization requires a new paradigm (Kuhn, 1996) of mass virtual collaboration which will be required as a critical element within an organization's standard operating model and ultimately its organizational culture (potentially ingrained in its core values) (Tapscott & Williams, 2008). Gharajedaghi (2006) has defined cooperation as the compatibility of both ends and means; and collaboration as the incompatibility of ends with the compatibility of means. In the context of this case study, diverse stakeholders may have different objectives, although the means remain consistent. Therefore, mass virtual collaboration may be manifested in diverse ends, while the consistency of means yields optimal results for the global organization.

The ability to institutionalize innovative change within a global organization requires cooperation and collaboration beyond the physical constraints of a single facility. Prior organizational social interactions, not inherent in physically dispersed facilities, yet attendant with global and virtual organizations today, typically occurred within walking distance (Ermann, Williams, & Shauf, 1997). This level of proximity and localized organizational size allowed various stakeholders a more holistic and readily evident projection of results. The ability for stakeholders in current borderless or physically disparate organizations remain challenged with readily embracing projected successful sustainable results.

Global and virtual organizations have begun to exhibit different aspects of required organizational culture precepts, as well as continually evolving organizational climate characteristics (Taguiri & Litwin, 1968). A *transformationally* changing recognition of this type of organization is occurring whereby they are being referred to as virtual villages or towns (Ponschock & Greif, 2007). These virtual villages, towns and global organizational constructs are not necessarily characterized by geography, social class, or financial accounting; rather their *cyber position* is defined and driven by the need for cooperation (Gharajedaghi, 2006), innovation (Ackoff, 1974), and sometimes even curiosity (which could lead to innovation) (Luthra, 2006). Inculcation of this type of systemic thinking is required to transition innovation through socialization and into a fully institutionalized solution.

3. PHASE I INNOVATION

Sustainable transformational change requires effective innovation (Ackoff, 1974) to provide a fundamental building block from where to begin. As a prelude to the actual innovation occurring, a return to the original Lewinian change model appears to be appropriate in this global supply chain initiative. Burnes (2009) has suggested that the original premise of the Lewin change model is more appropriate than it's ever been; and this premise was supported during the innovation phase at this global manufacturer. In the case of this ethnographic case study of the global manufacturer's supply chain initiative, it was evident that prior attempts at the real time visibility innovation required an *unfreezing* of current thinking to move it forward. The *unfreezing* was aided by the previous failures, and became manifested in a more democratically focused attempt based on profit maximization (Lewin, 1938). Subsequently, the innovation within the organizational construct was piloted to ensure its viability, potential cost savings, as well as achieving the primary stake holder's objectives (resulting in the unleashing of creativity required from the *unfreezing* of prior thinking).

The demonstrated and successful *unfreezing* of prior thinking, and subsequent innovation of the real time visibility solution, transcended physical facilities, as well as existent organizational constructs. Physical barriers, departments, organization charts, and job descriptions are common constraints placed in the way of positive systemic assessment in innovative development, as well as problem solving. "Think outside the box" is a mantra conveyed to encourage knowledge creation not bounded by politics, bias or arbitrary obstacles. As an innovative cultural continuum, organizations must continually look to communicate across real or artificial boundaries thereby allowing inter-organizational departments to work more cooperatively, productively and collaboratively. This would allow more expeditious results for adaptability, substitutability and sustainability. Consistent with the Lewin change model phase of *unfreezing,* this integration of thought for overall innovation was evident at this global manufacturer during their supply chain visibility initiation.

As a final precept of the innovation phase for this supply chain initiative, the utilization of evolving technology, various resources and cooperation were evident. Similar to the concept presented by Prahalad & Krishnan (2008), there is a requirement for effective utilization of boundary less resources referred to as R=G; whereby R represents the search and use of resources (R), while G represents the global resource market place (G). This concept provides the ability to reach beyond traditional boundaries and resources attendant within and around the organization. They state, "… most firms that have built agility and efficiency in their business process have done it through in-house proprietary systems" (p. 113). In this case study of a global manufacturer and its real time visibility initiative for their supply chain, they rely on a large number of suppliers while their desired solution is proprietary and transparent for competitive advantage. The evolving paradigm appears to be collaborative and cooperative use of global resources resulting in an organization's effective exchange of knowledge and value creation (Tapscott & Williams, 2008).

4. PHASE II SOCIALIZATION/COMMERCIALIZATION

Consistent with Lewin's change model (Lewin, 1938) (characterized by unfreezing, innovation and refreezing), the global manufacturer has embarked on the phase of socialization, consistent with the renewed need for Lewin's change model (Burnes, 2009). The socialization phase is best characterized by the requirement to ensure that dispersed stakeholders understand and concur with the benefits of the innovation; deployment plans are readily defined and understood; additional costs, as well as recurring costs, are adequately examined and funded; and, specific milestones are efficiently laid out. This formative case study is currently undergoing this phase; two additional sites are currently being deployed as the end points for the pilot phase, and the beginning of the global rollout plan (which is being characterized by institutionalization or commercialization for this proposed theoretical model in this case study).

Lingering obstacles exist during the socialization phase pertaining to the R=G model (Prahalad & Krishnan, 2008), whereby the technology selected is presenting some stability concerns; certain external providers have been substituted; and, the global manufacturer is evaluating substitution plans for these potential obstacles. Replacement technologies are being examined and analyzed; and alternative solution providers are being assembled. The ability to properly execute this plan would reinforce the premise of this case study that the Lewin change model is still relevant; and effective transformational and sustainable change requires a three phased approach consisting of innovation, socialization and institutionalization (or commercialization). Additionally, sustainable transformational change will be effective when the precepts of substitutability for technology and resources are considered during each phase, while the intellectual capital is maintained.

5. NEXT STEPS: COMMERCIALIZATION AND ASSESSMENT

Euclid's definition of a boundary appears to have relevance in the commercialization of initiatives such as defined in this formative case study when referred to as "that which is an extremity of anything" (Euclid, 1908/1923, Elements Bk I, DF13). "We think of a boundary whenever we think of an entity demarcated from its surroundings" (Metaphysics, 2008). As we review the demarcation of boundaries inherent in the institutionalization of innovation, as described herein for the case study global manufacturer and its supply chain visibility, it becomes readily apparent that the boundaries themselves are far reaching in a global context. Therefore, the need to readily communicate the pilot results will be required to solicit the appropriate level of stakeholder support which is dispersed in these global extremities. Additionally, the institutionalization of the described and demonstrated innovation becomes more complex as varied supply chain providers are required to be integrated into the solution as well.

The inherent challenge, which brings a certain level of longitudinal research to this ethnographic case study approach, remains in the packaging of the pilot solution; communication of successful results beyond normal boundaries and with disparate stakeholders; as well as the solicitation of appropriate funding to readily support and ensure a successful global rollout of the innovative solution. The positive aspects of this case study to date has been the progress enjoyed by the organization in proceeding past the initial innovative and unfreezing state, resulting in a potentially competitive solution from significantly reduced operating costs. The clear and present challenge resides in this organization's ability to solicit the appropriate level of support and funding to realize a fully commercialized solution throughout the organization. Follow on research from a longitudinal, case study and continuing ethnographic perspective will examine the effects of institutionalization and commercialization of this potentially viable solution at this global manufacturer.

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THE EFFECTS OF LEADERSHIP STYLE AND EMPLOYEE PARTICIPATION ON PERCEIVED JUSTICE

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ASBSTRACT

The present study proposes and tests a model that examines the relationship between leadership style, employee's participation, and justice perceptions. Results indicate that transactional, transformational, and dynamic leadership have positive impact on distributive, procedural, and interactional justice. Moreover, the effect of leadership style on organizational justice was indirect through employee's participation. There are also some interesting differences across different types of leadership style and justice.

Keywords: *Leadership style; Employee's participation; Organizational justice*

1. INTRODUCTION

The purpose of this paper is to examine the relationship between leadership styles and perceived justice based on the existing literature. Different from previous studies, this paper extends the literature of the justice by connecting three major research areas (leadership style, employee's participation, and organizational justice), and examines the influences of leadership style and employee's participation in shaping employee's perception of justice. In addition, this study synthesizes previous leadership studies and argues that leadership style can be categorized into four paradigms: classical leadership, transactional leadership, transformational leadership, and dynamic leadership. This typology provides a broad basis allowing for different forms of leadership to be evolved at different times and in different places. Below I review literature relevant to each element of the model and discuss the results of an empirical study designed to test the hypotheses.

2. THEORETICAL BACKGROUND AND HYPOTHESES

2.1 Leadership Style and Employee's Participation

During the past decades, the impact of leadership style on organizational performance has been a topic of interest among academics and practitioners working in the areas of leadership (Cannella & Rowe, 1995; Giambatista, 2004; Bobocel & Zdaniuk 2005). Several different typologies of leadership paradigms have been suggested by various researchers. Build on previous studies, this paper states four types of leadership style: classical, transactional, transformational, and dynamic leadership. This typology provides a broad basis allowing for different forms of leadership to respond to organizational needs and preferences depend on the context, and involve many interdependent factors that can be manipulated.

Organizations using classical leadership usually are dominant by a pre-eminent person or an elite group of people. Employees under classical leadership style do not have much power and make relatively little contribution to the organization, which leaves the leader accountable for organizational outcomes. Transactional leadership involves a negotiated exchange relationship between a leader and a subordinate (Jung & Avolio, 2000). According to Judge and Piccolo (2004), transactional leaders adopt a consultative style for making decision. Although under transactional leadership style, leaders remain the final decision-maker and employees are not very often empowered, employees are motivated to participate because of the rewards, agreements, and expectations negotiated with the leader.

Transformational leadership, on the other hand, involves a process to increase subordinates' understanding of the importance of organizational outcomes and help transform followers' personal values to be congruent with the collective goals or mission of their organization (Bass, 1985). Under transformational leadership, leaders employ a collaborative style for making decisions. They share problems with their followers and seek consensus before the leaders make the final decision (Bass, 1985). Dynamic leadership is relatively new to organizational studies. Dynamic leadership is likely to blur the formal distinction between leaders and followers. This type of leadership relies on reciprocal actions where team members work together in whatever roles of authority and power they may have, not based on the position power (Raelin, 2003; Rothschild & Whitt, 1986). Under dynamic leadership style, employees are highly participative to realize self-control and self-organization. Employees have a clear sense of purpose and autonomy within a particular context (Manz et al., 1987). Taken together, I propose that:

H1a: Classical leadership will display negative relationship with employee's participation.
H1b: Transactional leadership, transformational leadership, and dynamic leadership all will display positive relationships with employee's participation. Moreover, I expect that transformational and dynamic leadership will have a stronger effect on employee's participation compared with other two styles.

2.2 Employee's Paticipation and Perceived Justice

Employee's participation is found important for the success of any kind of organizational change as it involves experiences of fair treatment (Heller, Strauss, & Wilpert (1998). More employees' participation in decision-making results stronger perceptions of justice and less negative views on the change process (Brockner, 1990; Heller et al., 1998 Mikkelsen, Saksvik, and Landsbergis (2000) found that participatory interventions were associated with positive attitudes on work-related stress, job characteristics, and learning climate. These positive work attitudes appear to be more likely connected with perception of fair treatment (Brockner, 1990). Dachler and Wilpert (1978) also found that participation in the decision making process in turn results in greater acceptance of the decisions and more acceptance of the change outcomes. Management representatives generally perceived participative workplace evaluation to be effectively facilitated, employee's participation to be fostered and displayed an overall sense that the decision was fair. Consistent with extant research and theory, I propose the following:

H2: There will be a positive relationship between employee's participation and their perceptions of justice (distributive, procedure, and interactional). However, with the same level of participation, it will have greater impact on distributive and procedural justice than on interactional justice.

2.3 Leadership Style and Perception of Justice

According to Dirks and Ferrin's (2002) systematic-heuristic processing framework, employees who trust their manager will engage in heuristic processing of information, which will lead to greater acceptance of explanations. This favorable perception of explanation leads to favorable justice perceptions. Employees under transactional leadership are more likely to perceive distributive justice as the resource of employees' motivation comes from the rewards and expectations.

Transformational leadership styles motivate followers to focus more on fairness and justice issues, it follows that transformational leaders should increase the influence of procedural justice. Dynamic leadership style relies on attracting and retaining highly trained and knowledgeable stuff with self-controlling capabilities. Employees are less likely to perceive interactional justice since there is no formal leaders in this type of leadership. Employees' commitment is based on the values and visions shared by the organization, their cognition, affect, and behavior are more related to organization, therefore, are more likely to perceive procedure justice. Taken together, I formalize the implicit links in the model with the following prediction:

H3: All four types of leadership (classical, transactional, transformational, and dynamic leadership) are positively related to employee justice perceptions.
H3a: Classical leadership has stronger effect on interactional justice perception than on other two types of justices.
H3b: Transactional leadership has stronger effect on distributive justice perception than on other two types of justices.
H3c: Both transformational and dynamic leadership have stronger effect on interactional justice perception than on other types of justices.

3. METHOD

3.1 Sample and procedure

This research design was a field study using survey methodology. Based on simple random sampling, the sample consisted of 145 working adults in United States. A total of 139 usable responses were obtained. The response rate is 95.8%. Participation was completely voluntary. Respondents were promised anonymity, and asked to return the questionnaires directly to the researcher via email or mail.

These participants were working mainly in retail (34%) and service industries (40%). 61.1% were Caucasian, and 56.8% were female. The average age of the respondents was 30.47, and their average working experience in the currently company is 4.75 years. The current companies that the participants were working are primarily small size companies (56.5% have less than 20 employees). 64.5% of the respondents were general clerk, and 64.7% hold associate degree or below.

3.2 Measures

All items used in the survey were measured on a 5-point Likert scale ranging from 1-strongly disagree to 5-strongly agree. The pool of items for each dimension was compiled by selecting appropriate items from existing measurement instruments and by developing a few additional items based on relevant literature.

Six items adapted from Bass and Avolio (1995) Multifactor Leadership Questionnaire (MLQ) scale were used to measure classical leadership. Five items adapted from MLQ were used to measure transactional leadership. To measure transformational leadership, seven items were borrowed from Carless, Wearing and Mann's (2000) scale. The instruments for dynamic leadership which consists of six items were borrowed from Manz and Sims (1987). Seven items measured employee participation were borrowed from the existing literature (Parnell & Bell, 1994; Margulie & Black, 1987; Dachler and Wilpert, 1978; Black & Gregersen, 1997). Five items adapted from Cobb, Folger, and Wooten (1995) and Paterson, Green and Carey (2002) were used to measure distributive justice. The instruments for procedural justice consists of six items were adopted from Paterson et al. (2002). The instruments for interactional justice consists of six items were also adopted from Paterson et al. (2002). Gender, age, education, and race were used as control variables in this study.

4. RESULTS

Means, standard deviations, reliabilities, and correlations of all the variables are displayed in Table 1. To test the hypotheses, several multiple regression analyses were conducted.

Table 1 Means, Standard Deviations, and Intercorrelations of the Variables

	M	*SD*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1. Classical Leadership	4.70	0.97	(.67)							
2. Transactional Leadership	4.51	1.24	0.362	(.78)						
3. Transformational Leadership	5.03	1.37	0.207	0.532	(.92)					
4. Dynamic Leadership	4.92	1.25	0.326	0.559	0.746	(.87)				
5. Employee's Participation	4.37	1.28	0.105	0.239*	0.571**	0.450**	(.82)			
6. Distributive Justice	4.85	1.11	0.200	0.459**	0.649**	0.628**	0.577**	(.78)		
7. Procedural Justice	4.86	1.07	0.247*	0.443**	0.659**	0.656**	0.549**	0.711	(.83)	
8. Interactional Justice	5.39	1.59	0.206	0.428*	0.701**	0.667**	0.530**	0.652	0.804	(.83)

N = 139
*p<,05, **p<.001. Cornbach's alphas are on the diagonal.

Hypothesis 1a and 1b examine the relationship between leadership style and participation. Regression analysis results show that the effect of classical leadership on employee's participation is insignificant. Thus there is no empirical support for H1a. Transformational leadership ($F=66.258$, $R^2=.303$, $p < .001$), dynamic leadership ($F=38.353$, $R^2=.219$, $p < .001$), and transactional leadership ($F=5.458$, $R^2=.038$, $p < .05$) are found positively related to employee's participation. In addition, Bivariate correlations show that the correlation between transformational leadership and participation ($r=.571$), and between dynamic leadership and participation ($r=.450$) are higher than the others ($r=.105$ for classical leadership and $r= .239$ for transactional leadership) Therefore, H1b is supported.

Hypothesis 2 examines the relationship between employee's participation and perceived justice. Regression analysis results indicate that the effects on distributive justice ($F=60.9$, $R^2=.303$, $p < .001$), procedural justice ($F=56.978$, $R^2=.294$, $p < .001$), and interactional justice ($F=38.104$, $R^2=.218$, $p < .001$) are all significant. Moreover, employee's participation is found more correlated with distributive justice ($r=.577$) and procedural justice ($r=.549$) than with interactional justice ($r=.530$). Therefore, H2 is supported.

Hypothesis 3 examines the relationship between leadership style and justice. Regression analysis results show that the overall model is acceptable. Leadership style has positive effect on distributive justice ($F=31.177$, $R^2=.482$, $p < .001$), procedural justice ($F=32.916$, $R^2=.496$, $p < .001$), and interactional justice ($F=16.98$, $R^2=.336$, $p < .001$). In addition, the correlations results indicate that classical leadership has more impact on procedural justice. This is not consistent with the prediction. However, in line with the hypotheses, transactional leadership is found has more impact on distributive justice and both transformational and dynamic leadership have more impact on interactional justice. Thus, H3, H3b, and H3c are supported while H3a is not supported.

5. DISCUSSION

Generally, the findings of the study deepen our understanding of organizational justice. The study contributes to the literature by synthesizing three major theories: leadership style, employee's participation, and organizational justice. Perceptions of justice and fairness are critical when employees assess their work environment. Good leadership can improve this through allowing more employee participation to create perceptions of justice. Proper leadership style creates the correct atmosphere in the organization. Managers play a key role in determining who is involved in the decision-making process and to what degree the subordinates are able to be involved. Another useful contribution of this work perhaps is the category of leadership style. Existing literature has too focused on transformational and transactional leadership. The present study proposes four types of leadership style: classical, transactional, transformational, and dynamic leadership. This typology provides a broad basis for researches of different forms of leadership.

The study is not without limitation. A first potential limitation is that self-report measures are used to collect data. Research designs that rely on self-report measures are susceptible to common-method variance (Campbell & Fiske, 1959). A second potential limitation is that I did not measure the supposed underlying moderate effects. That is, whether the relationship between leadership style and organizational justice could be influenced by some moderate factors such as personality and leader's capability. A third potential limitation is that the focus of this research was on the mediating role of employee's participation. It should not be ignored that leadership style and justice can be linked via subordinate's emotional reactions.

6. CONCLUSION

Taken together, the current investigation puts forward the important scientific task to examine how leadership styles and employee's participation interact in affecting organizational justice. It is hoped that the present investigation will spark additional forays into the relation between leadership styles and organizational justice.

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ASSESSING ASSURANCE OF LEARNING TO ENSURE ENHANCED STUDENTS' PERFORMANCE IN QUANTITATIVE COURSES

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ABSTRACT

The study empirically tests the impact of requiring graded homework and quizzes on student learning as measured by exam scores in introductory accounting courses. It uses scores on required exams as a performance measure and tests the impact of required graded homework and quizzes on them. This impact is expected to strengthen during the course of the semester as students' realized the value of performing well on these assignments. The results indicate that students' performances on respective exams were found to be significantly affected by their performance on both homework and quizzes. However, this positive impact did not strengthen as the semester progressed but remained consistent throughout it. Accounting faculty could adopt this simple strategy of requiring graded homework and quizzes before their required exams and thus enhance student learning and consequently reduce attrition rates in business schools.

Keywords*: Student learning, homework, quizzes*

1. INTRODUCTION

For a majority of business students, the introductory accounting courses are often times the ones that they find most difficult and challenging. Since these introductory accounting courses are a part of the business core and all business majors have to take them, accounting faculty are constantly trying to find innovative ways of increasing student learning and student success in these courses. In many cases, repetitive failing grades in these courses often prevent students' from graduating or changing their major to a non-business one (Anantharaman and Lee, 2008). This tendency seems to be particularly prevalent in those schools where students admitted to the University can simply declare a business major at will and are not required to meet school of business specific admission requirements. It has been observed firsthand that a major cause of student attrition in business programs has been poor student performance in the required quantitative courses in the business core (Anantharaman and Lee, 2008).

Usually student success in any course is largely dependent on their exam grades. This would also be the case with introductory accounting courses in most Universities. Coursework leading up to individual required exams would definitely have a great impact on student performance on them. It is therefore logical to assume that required graded homework assignments and quizzes would have a similar impact on exam grades. If empirical test results support this assumption, then accounting (and other business) faculty could take appropriate steps to ensure their courses require graded homework assignments and quizzes leading up to required exams. Tailoring introductory accounting courses thus to ensure student success would go a long way toward reducing attrition rates from business programs.

The purpose of this study is to examine the impact of graded homework and quizzes on exam grades in introductory accounting courses. This study uses data readily available from the grade sheets of introductory accounting courses at a major public university in the United States. This research approach is expected to increase the applicability of the study's findings.

2. BACKGROUND AND LITERATURE REVIEW

Past research on determinants of student success in courses has identified several factors that affect academic achievement by students including student level of preparation, their innate ability (as measured by their SAT scores), learning aptitude, motivation, experience, demographics (age, sex, etc.), intensity of effort, class size, quality of instructor, etc. (Kirk and Spector, 2006; Caiado and Paulo, 2002)

Accounting literature in particular has several studies relating to this topic. Danko (1992) found that the student's overall grade point average (gpa) was the best predictor of success in the course. Doran (1991) identified the first exam score in principles of accounting to be a good predictor of student success in that course. Other determinants identified were gender (Wooten, 1998), and level of student effort (Ibrahim, 1989). Eskew and Faley (1988) also found aptitude to be a determinant of student success in principles of accounting courses.

Class duration is identified by Finance literature as a determinant of student success. (Wilson, 2002). In Economics literature several determinants of student success are identified including SAT scores, gpa, and student attitudes toward the course. (Anderson, Benjamin, and Fuss, 1994; Borg, Mason, and Shapiro, 1989; Raimondo, Esposito, and Gershenberg, 1990; Karstensson and Vedder, 1974; Rothman and Scott, 1973; Siegfried and Fels, 1979; and Manahan, 1983)

This paper investigates the impact of required graded homework assignments and quizzes on exam scores in introductory accounting courses. The following sections present the methodology, discussion of results, and finally our conclusions.

3. METHODOLOGY AND HYPOTHESES

Data for this study were collected from the business school of a major state university located in Mid Atlantic United States. The data were extracted from the grade sheets of accounting principles courses over three semesters. The data included only those students that completed the course. The variables adopted for this study include graded homework scores, quiz scores and exam scores in these courses. The same policies regarding homework and quizzes were followed for all three semesters in the accounting principles courses. The homework assignments and the quizzes had to be competed and submitted for grading before the exam day. All the assignments were done online on a companion website related to the textbook being used in the course. Students were required to purchase the textbook with the access code for the companion website. The due dates for the assignments were tied to the exam dates in that all assignments from chapters covered by a particular exam were to be completed and submitted before the respective exam dates. Students were allowed three attempts at their homework with only the highest score being retained for grading purposes. The quizzes were also graded but they were used as a learning tool more than an assessment tool in that students had unlimited attempts to do the quizzes with only the highest score being retained. The idea was to give students the opportunity to familiarize themselves with exam type questions while learning the material and getting positive reinforcement via immediate feedback.

The study expects to find a positive relationship between student scores on their graded homework assignments and quizzes and their exam scores. This relationship is expected to strengthen during the course of the semester as students realized the value of performing well on these assignments and modified their study habits to completing these assignments accurately and on time. Such learning effects undoubtedly would result in higher exam scores for the students. Based upon this reasoning, the following two hypotheses were developed.

$H1_{a,b}$: A student's performances on quizzes[a] and homework[b] have significant influences on the student's exam scores.

H2: The influence of homework and quizzes on exam scores becomes stronger as the semester progresses.

4. RESULTS

To test the study's hypotheses, four regression models were adopted. First, the overall influence made by quizzes and homework on test scores (i.e., $H1_{a,b}$) was tested by using pooled scores from three exams for all variables, including overall test score as a dependent variable and both homework score and quiz score as independent variables. In addition, the learning effects among students regarding the importance of independent variables (i.e., quizzes and homework problems) for high test score as semester progresses, standardized beta coefficients of the independent variables as well as adjusted R^2 were scrutinized across three exams. The test results are summarized in TABLE 1.

TABLE 1. EFFECTS OF QUIZZES AND HOMEWORKS ON ACCOUNTING EXAM GRADES

	Pooled Exam Score: Standardized β Coefficient (*t*-value)	Exam 1: St. β (*t*-value)	Exam 2: St. β (*t*-value)	Exam 3: St. β (*t*-value)
Homework	0.46 (4.29) *	0.54 (3.37)*	0.34 (3.01)*	0.51 (4.39)*
Quiz	0.40 (3.60) *	0.30 (6.01)*	0.44 (3.98)*	0.26 (2.23)**
Adjusted R^2	0.657	0.503	0.495	0.498

*: Significant at 0.01 level. **: Significant at 0.05 level

As shown in Table 1, both $H1_a$ and $H1_b$ are supported. Students' performances on the respective exams were found to be significantly affected by their performance on both homework ($H1_a$) and quizzes ($H1_b$). It is imperative to note the strength of Adjusted R^2 of 0.657, indicating that about 65% of the students' performance on exams is determined by how well they did on the required graded homework and quizzes. The expected learning effects among students regarding the critical roles of homework and quiz for their test performance, however, were not obvious. Contrary to H2, the effects of homework and quizzes on test scores were somewhat consistent rather than increasing across three exams. As observed in standardized beta coefficients for homework and quizzes across exams, there is no sign showing the increased influences of homework and quizzes on test scores. Even Adjusted R^2 remains about the same at 0.50 across three exams.

5. CONCLUSIONS

This study investigates the impact of graded homework assignments and quizzes on student learning, as measured by their exam scores, in introductory accounting courses at a mainstream public university. Student success or lack thereof, in introductory accounting courses is considered to be somewhat responsible for student attrition from business programs. The ultimate purpose of this study is to help accounting faculty develop and implement strategies to increase student learning and success in these courses. This could result in better student performance in these courses and eventually decrease student attrition and increase the overall graduation rates of business majors.

The variables adopted for this study included graded homework assignments, quizzes, and exam scores. The results indicate that there is a significant impact of graded homework assignments and quizzes on student learning. However, the results did not support the hypotheses that this impact would strengthen as the semester progressed. The results showed that this impact remained consistent throughout the semester. A possible explanation could be that students took the homework assignments and quizzes seriously from the start of the semester and continued doing so till the end.

The applicability of this study's findings is limited by the sample size and the fact that only one accounting principles course was used to collect data. This fact might limit the applicability of these results to other courses in business schools. The study did not test for the effects of gender, age, race, student classification, student attitudes, etc., on student learning and thus its results are limited in this regard. The study could be expanded by using the same policies for other courses in the school of business and thus expanding the sample size to strengthen the results. A natural extension of this study would be to control for the factors as described above and to include other required assignments (if any) as having an impact on exam scores. Once such factor could be sample questions or practice questions that some faculty assign students as test preparation tools before every exam. These questions often times mirror exam questions and thus would be sure to have a huge positive impact on exam scores. The accounting courses included in this study did not assign any such questions to students before exams.

The results clearly indicate the importance of requiring graded homework assignments and quizzes in introductory accounting courses. If more accounting faculty adopted this simple strategy in their courses, student learning would be enhanced and attrition rates would decrease in business schools.

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HUMAN RESOURCE PRACTICES AND INDIVIDUAL KNOWLEDGE INNOVATIVE BEHAVIOR: AN EMPIRICAL STUDY FOR TAIWANESE R&D PROFESSIONALS

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ABSTRACT:

Individual knowledge innovative behavior is of central importance for the organization's innovative capability. When members of an organization interact and share each other's information and knowledge, the sharing of individual knowledge can stimulate the emergence of individual innovative knowledge, which can enable the organization to create new knowledge, and enhance the organization's innovative capability. It is, therefore, valuable to investigate how R&D professionals create knowledge in organizations. This study explores the relationship between human resource practices and individual knowledge innovative behavior in Taiwan's high-tech industries. The cross-sectional dataset contains a sample of 564 R&D professionals from 11 different high-tech companies. The findings indicate that the willingness to share tacit knowledge plays an important role in innovation integration models and collaboration-based HR practices can induce employees to share tacit knowledge hidden in their brains, which can further boost organization members' innovative behavior. The results also show that two pathways may influence individual knowledge innovative behavior. The first pathway is the positive effect of knowledge-based HR practices on individual knowledge innovative behavior. The second pathway is the use of collaboration-based HR practices to induce employees to share their tacit knowledge and thereby influence individual knowledge innovative behavior.

Keywords: *Knowledge-based HR practices, Collaboration-based HR practices, The Willingness to share tacit knowledge, Individual knowledge sharing behavior, Individual knowledge innovative behavior.*

1. INTRODUCTION

Many studies in recent years have investigated innovation and organizational reform(Anand, Gardner, & Morris, 2007), and have largely focused on the questions of how to improve an organization's innovation capability, and what external and internal factors influence an organization's innovation capability. In connection with the resource-based view (RBV), Barney (1995) points out that a key issue is how organizational resources can be used to achieve a sustainable competitive advantage. From this point of view, the knowledge, skills, and abilities possessed by employees can be considered important resources boosting an organization's innovation capability (Thompson, 2003), and individual knowledge innovative behavior is a key element displaying their knowledge, skills, and abilities. Furthermore, human resource (HR) practices are arguably inseparable from corporate strategies, and this link necessarily also applies to innovation strategies (Kang, Morris, & Snell, 2007; Lopez-Cabrales, Valle, & Herrero, 2006). A close connection between HR strategies and organizational strategies can enable employees to better meet the expectations of stakeholders within and outside the organization. The question this study seeks to answer is therefore, in the context of innovation, how much contribution do HR practices make to individual knowledge innovative behavior?

Uncovering how HR practices enhance individual knowledge innovative behavior via the willingness to share tacit knowledge can provide new insights concerning strategic human resource management, and innovation. This study's chief contributions in these three areas are as follows: First, this study enriches the field of strategic human resource management: We hypothesize that knowledge-based HR practices directly influence individual knowledge innovative behavior. Collaboration-based HR practices can stimulate employees' the willingness to share tacit knowledge (Lepak & Snell, 2002), which enhances raising individual knowledge innovative behavior. This study verifies that different human resource management strategies may influence employees' behavior via different pathways. Secondly, this study proposes an integrated model of innovation: This study provides an integrated model of HR practices, the willingness to share tacit knowledge, and individual knowledge innovative behavior in research and development (R&D) departments, and this model can be used to improve individual knowledge innovative behavior. Based on these ideas, we argue that the willingness to share tacit knowledge makes human resources a unique resource conferring a sustainable competitive advantage on an organization. This study provides empirical support from the R&D department of a high-tech firm in Taiwan for the foregoing theoretical assertions.

2. LITERATURE REVIEW

2.1 HR practices as a Promoter of Individual knowledge innovative behavior

From the point of view of strategic human resource management, Schuler and Jackson(1987) proposed that different human resource management strategies can induce different employee roles and behaviors, and an organization should therefore select appropriate human resource management measures capable of inducing employees to engage in behavior needed by the organization, and thereby facilitating the implementation of strategies. Human resource innovation strategies may involve "knowledge-based HR practices" or "collaboration-based HR practices," (Lepak & Snell,2002;Lopez-Cabrales, Pérez-Luño,& Cabrera,2009) where knowledge-based HR practices implied that the organization's HR practices commit resources and equipment in an effort to integrate the organization's internal knowledge(Grandori ,2001). The establishment of this type of HR practices has the goal of "knowledge integration." In contrast, collaboration-based HR practices are team-oriented. Past literature has explained teamwork as enhancing group members' collaboration in order to create unique knowledge for the organization. Because of this, collaboration-based HR practices refer to HR practices seeking to enhance an organization's innovation capability by stimulating internal collaboration. The establishment of this type of HR practices has a goal of stimulating collaboration between employees. This study therefore classifies HR practices as knowledge-based HR practices and collaboration-based HR practices in order to determine the effectiveness of HR practices with regard to individual knowledge innovative behavior.

Knowledge integrated via knowledge-based HR practices tends to be explicit innovative knowledge. Because explicit innovative knowledge can be encoded in signs and symbols, it is formulaic information that can be transferred via formal systems. Highly codified knowledge tends to be explicit, evident, and observable, and these characteristics facilitate the storage of explicit innovative knowledge; misinterpretation of explicit innovative knowledge will not influence individual knowledge innovative behavior. One method of enhancing individual knowledge innovative behavior is to use knowledge-based HR practices to develop the organization's internal human resources (Lepak & Snell, 2002). Paauwe and Boselie (2005) suggested that HR practices can influence individual knowledge innovative behavior via individual, specific human resource management functions (so that employees follow the strategic directions desired by the organization). In line with this inference, a firm may employ specific human resource management functions in its training, compensation systems, and performance assessment, so as to integrate the organization's internal knowledge.

A firm may provide internal training serving to integrate the organization's knowledge (Lepak & Snell, 2002). An organization may consider training integrating knowledge to be necessary because it can improve employees' problem-solving ability (Laursen & Foss, 2003). In addition, a firm may design training activities around innovative thinking and core competences in order to enhance employees' innovation ability. Stimulus may also be applied in the form of compensation. Compensation systems must include incentive methods encouraging innovative employees. Because of the difficulty in delimiting innovative behavior, result or output incentives are most effective when they reward group contribution. Incentives may also embody innovative thinking, such as when salary standards are set based on innovative knowledge so as to encourage employees to continue to develop innovative behavior. Employees may receive feedback concerning their work and how to improve their performance, which may promote autonomous employee management. Managers should provide performance assessment assistance and feedback in order to help employees resolve performance problems. These methods may all serve as effective methods of promoting knowledge development and innovative solutions.

The goal of knowledge-based HR practices is to develop both valuable innovative knowledge already existing in the market and the organizational own unique innovative knowledge. In addition, the development of knowledge-based HR practices can help a firm to acquire valuable innovative knowledge and boost employees' accumulation of individual knowledge and skills (Lepak et al., 2006), yielding potential benefit and unique human resources. We therefore propose the first hypothesis:

H1: Knowledge-based HR practices have a positive effect on individual knowledge innovative behavior.

Another type of HR practices is termed collaboration-based HR practices (Lepak & Snell, 2002). While knowledge-based HR practices are knowledge oriented, collaboration-based HR practices are team oriented. One innovation-related organizational variable in the literature is the "work team." Innovation usually begins with an innovative individual thought, after which collective analysis and development by the work team creates new products and services from the initial idea. This is the process of innovation. Work teams are considered an effective means of creating and communicating innovative ideas. Work teams are an important recent trend in organizational design, and are considered a key element in the innovation and improvement of products and services (Thompson, 2003).

In collaboration-based HR practices, we focus on training activities based on team functions. The design of a work team should foster mutual dependency, and encourage members to work together to find new solutions to problems (Kang et al., 2007). As a consequence, in collaboration-based HR practices, the development of interpersonal skills training will have a positive influence on individual knowledge innovative behavior, which is because it facilitates interaction between colleagues, and encourages the circulation of new ideas and points of view (Lepak et al., 2003). Barczak and Wilemon (2003) verified that work team members tend to be very interested in innovation when the team's innovation capability is set as a compensation standard. The process of compensation systems should also uphold team standards(Lepak & Snell, 2002). In this context, Balkin and Montemayor (2000) also verified that there is a positive correlation between long-term incentive programs and individual knowledge innovative behavior. Performance assessment systems should uphold team standards (Lepak & Snell, 2002), and team-based performance assessment systems can effectively stimulate individual knowledge innovative behavior .Collaboration-based HR practices have been proven to be an effective means of providing the organization with specific innovative knowledge. Collaboration-based training, compensation systems, and performance assessment methods can promote information sharing and creation among organization members (Lepak et al., 2003).

2.2 The Mediating Role of the Willingness to Share Tacit Knowledge

With regard to human capital, the most exclusive and inimitable resource is the tacit knowledge embedded in employees. The foregoing hypothesis begs the question of how the form and characteristics of knowledge can enhance employees' knowledge innovation. Looking from the point of view of cognition, when we take knowledge as the logic of consequence, circulating knowledge is continuously processed, can correctly portray objective knowledge, and can be encoded via logical methods and easily transferred to other individuals. For its part, the constructive viewpoint emphasizes organizational learning. From this perspective, tacit knowledge is created via experiences and activities, and is not easily encoded or expressed. This is the willingness to share tacit knowledge discussed in this study (Nonaka,1994).

What system can induce the emergence of the willingness to share tacit knowledge hidden in employees' brains? Among HRM practice systems, collaboration-based HR practices are best able to cause the emergence of the willingness to share tacit knowledge latent among group members. The literature also explains how the importance of groups or teams lies in promoting the emergence of the willingness to share tacit knowledge possessed by group members. In collaboration-based HR practices, team skills are the goal of training. Furthermore, performance assessment and the compensation process should uphold group standards. Collaboration-based HR practices are consequently a key starting point for an organization's dissemination of tacit knowledge.

Collaboration-based HR practices have been found to an effective means of increasing the willingness to share tacit knowledge (Lepak & Snell, 2002). Communication mechanisms, rotating job transfer schemes, team base pay compensation systems, and performance assessment methods may be employed to promote information sharing and induce team members to share their tacit knowledge (Lepak et al., 2003).
H2: Collaboration-based HR practices have a positive effect on the willingness to share tacit knowledge.
Numerous studies have documented the relationship between willingness to share and knowledge sharing behavior (Morris, 2001). Among these, Morris (2001) suggested that individuals perceive knowledge as their personal property, and are only willing to share when they perceive that they will benefit from doing so. Due to the personal nature of tacit knowledge, the individuals must be “willing” to

share and communicate it. As a consequence, the success of tacit knowledge sharing depends on whether individuals maintain an active attitude (Liu & Liu,2008).

H3: The willingness to share tacit knowledge has a positive effect on knowledge sharing among individuals.

The willingness to share tacit knowledge is a key element in the enhancement of individual knowledge innovative behavior. The tacit knowledge embodies unique human resource characteristics, where unique human resource characteristics refer to the rare knowledge, skills, and abilities possessed by the organization's employees. These resources can be transferred to another organization only with great difficulty (Wright & McMaha,1992). The tacit knowledge is rare, and is created by the experiences and activities of the organization's members. It is not easy to encode or express using logical methods, and consequently cannot be readily transferred to another organization. The uniqueness of the tacit knowledge can enable an organization to gain and maintain a competitive advantage. A collective innovative capability can be achieved only when employees possessing rare tacit knowledge, skills, and abilities engage in individual knowledge innovative behavior. The willingness to share tacit knowledge therefore gives employees the motivation to effectively engage in individual knowledge innovative behavior.

H4: The willingness to share tacit knowledge has a positive effect on individual knowledge innovative behavior.

2.3 The Process of Individual Knowledge Innovative Behavior

Knowledge embodies the concept of flow (Holtshouse, 1998). Knowledge sharing involves give and take between knowledge transmitters and knowledge receivers, which implies that transmitters are not necessarily entirely willing to share knowledge with receivers. Even if receivers invariably wish to learn new knowledge, if knowledge-holding transmitters are unwilling to transmit knowledge to receivers, knowledge will not be shared. In contrast, if receivers are unwilling or unable to learn, even if knowledge transmitters are willing to transmit knowledge to the receivers, it will likewise be impossible to achieve knowledge sharing. These circumstances may cause a knowledge trading market to be inefficient (Teece, 1998).

Nonaka (1994) posits that the main goal of knowledge management is to achieve knowledge innovation. When members of an organization interact and share each other's information and knowledge, the sharing of individual knowledge can stimulate the emergence of individual innovative knowledge, which can enable the organization to create new knowledge, and enhance the organization's innovative capability. Knowledge innovation occurs through sharing of knowledge between knowledge transmitters and receivers, which will result in the linear growth of the information and experience obtained by both parties. If individuals can continue to exchange knowledge with others, and feedback and extend problems, it will be possible to achieve exponential growth of knowledge and experience, and exponentially growing experience and knowledge can serve as a source of innovative capability for the organization(Germain, Cornelia & William, 2001). It has been noted that an enterprise's performance may be correlated with employees' willingness to share knowledge with others within the organization. Knowledge management can be considered a set of strategies for ensuring that appropriate persons obtain appropriate knowledge at appropriate times. By helping members share information, knowledge management can promote collective intelligence and enhance the organization's response and innovation capabilities.

H5: Individual knowledge sharing behavior has a positive effect on individual knowledge innovative behavior.

3. DISCUSSION

Although research on innovation has attracted substantial academic interest, only a small number of studies have attempted to analyze employee knowledge and how human resource management can enhance individual knowledge innovative behavior. This study therefore employs theory and empirical research to promote the development of this academic field. Our research results indicate that the willingness to share tacit knowledge plays an important role in innovation integration models. This study's findings concerning collaboration-based HR practices are in line with Barney's(1995) suggestion that appropriate human resource management strategies must be used to effectively manage key resources. Our results also confirm that collaboration-based HR practices can induce employees to share the willingness to share tacit knowledge hidden in their brains, which can further boost organization members' knowledge innovative behavior.

Our research results indicate that two pathways may influence individual knowledge innovative behavior. The first pathway is the positive effect of knowledge-based HR practices on individual knowledge innovative behavior. The second pathway is the use of collaboration-based HR practices to induce employees to share their willingness to share tacit knowledge and thereby influence individual knowledge innovative behavior. We verify that different human resource management strategies can activate these different pathways for enhancing individual knowledge innovative behavior. From the point of view of strategic human resource management, organizational innovation strategies will spin off innovative human resources management strategies, and different innovative human resource management strategies (knowledge-based HR practices and collaboration-based HR practices) will induce different employee roles and behavior (Schuler & Jackson, 1987). Organizations should therefore select appropriate human resource management measures inducing employees to engage in behavior needed by the organization, and thereby facilitating the implementation of strategies.

This study's contribution to the field of innovation lies in its examination of innovation management processes combining individual behavior and individual innovation. The two innovation management pathways derived from the literature in this study can be used to improve individual innovation. The first pathway involves the use of knowledge-based HR practices, and enables an organization to use its information platform to increase its internal explicit innovative knowledge, which can boost individual knowledge innovative behavior. The second pathway involves the use of collaboration-based HR practices, and encourages knowledge sharing among employees, and promotes an increase in the organization's internal willingness to share tacit knowledge; employee knowledge sharing can enhance knowledge innovative behavior.

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COMPARING PERFORMANCE OF SMALL COMMUNITY BANKS IN CALIFORNIA

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ABSTRACT

This paper compares the performance of small community banks to that of large community banks and large banks in California during the period of 1992 to 2006. The evidence indicates that small community banks have been losing market share in terms of number of banks and the value of assets. Their market share of loans also declined. Risky real estate loans gained greater importance in their loan portfolio, and the overall risk of their loans increased as a result. Small community banks relied more heavily on equity capital than their larger counterpart, and they also fared better in terms of capital adequacy. Despite their higher net interest margin due to higher interest income and lower interest expense, small community banks had lower net profit margin as a result of lower non-interest income and higher non-interest expense. The ROA and ROE were both lower than those of their larger counterpart. Small community banks fared worse in terms of their higher noncurrent loans and lease ratio. They also had less long-term assets and relied hardly on any derivates in managing their risk.

Keywords*: Performance of Community Banks, Loan Portfolio, Capital Adequacy, Net Interest Margin, Net Profit Margin, Noncurrent Loans and Lease ratio*

1. INTRODUCTION

The number of commercial banks in California has been declining since 1992; it dropped from 455 in 1992 to 279 in 2006. The most significant decline occurred in banks with asset value less than $100 million (defined as small community banks in this paper); their number went from 260 to 66. Consolidation, failure, and outgrowing bank size class contributed greatly to their loss. The number of banks with asset value between $100 million and $1 billion (defined as large community banks) decreased slightly from 175 to 161. On the other hand, the number of banks with asset value greater than $1 billion (defined as large banks) has grown from 20 to 52. Small community banks suffered the greatest loss in number, and their percentage relative to total number of banks dropped by 33%. In 2006 there were only 66 small community banks in California and they accounted for 24% of all banks. Both small and large community banks combined accounted for 80% of all banks.

Community banks have played a critical role in the growth of California's economy by being a major source of credit to small businesses. Community banks are known for providing value-added loans to specific sectors such as small businesses and farms. (Jayaratne and Wolken, 1999) suggested that community banks have comparative advantages in providing loans to informationally opaque borrowers. (Critchfield, Davis, Davison, Gratton, Hanc, and Samolyk, 2005), (DeYoung, Hunter, and Udell, 2004), (Bernanke, 2004), (Stiroh, 2004), and (Zimmerman, 1996) either studied the performance, or raised their concerns of capital adequacy, the risk of loan portfolio, and the future challenges of community banks. It is the focus of this paper to study the evolving role of community banks in California from 1992 to 2006 by examining their assets, their loan portfolios, their liabilities and other sources of funding, their income and expenses, their performance and risk management.

2. ASSETS AND LOANS

The total assets of small community banks dwindled gradually in value from $13 billion to $3.5 billion from 1992 to 2006, a 73% decline. The value of total assets of large community banks remained about the same at $49 billion. For large banks total asset value increased rapidly from $267 million in 1992 to $459 billion in 1998. In 1999 large banks experienced a sharp decline, almost a 50% loss, in total asset value to $227 billion. Their total asset value returned to $441 billion in 2003, but dropped significantly again in 2004 to $230 billion. Since then the total asset value of large banks increased steadily to $298 billion in 2006. In percentage, the asset value of small community banks relative to the asset value of all banks declined from 4% in 1992 to 1% in 2006; for large community banks the percentage went down from 15%

to 14%, and for large banks the percentage went up from 81% to 85%. Table 1 shows the declining role of small community banks over time in terms of asset value and market share measured by asset value.

Table 1 Asset of Commercial Banks in California

Assets	All institutions	Assets less than $100 million		Assets between $100 million and $1 billion		Assets greater than $1 billion	
In millions	Assets	Assets	Market share	Assets	Market share	Assets	Market share
Dec-92	$329,680	$13,301	4%	$48,955	15%	$267,424	81%
Dec-93	$328,493	$11,873	4%	$48,050	15%	$268,571	82%
Dec-94	$345,412	$11,583	3%	$44,621	13%	$289,209	84%
Dec-95	$368,224	$10,316	3%	$43,883	12%	$314,026	85%
Dec-96	$417,224	$8,979	2%	$45,214	11%	$363,031	87%
Dec-97	$474,812	$7,684	2%	$50,320	11%	$416,808	88%
Dec-98	$515,969	$7,496	1%	$49,016	9%	$459,458	89%
Dec-99	$286,743	$6,316	2%	$53,136	19%	$227,290	79%
Dec-00	$320,007	$5,713	2%	$48,127	15%	$266,167	83%
Dec-01	$360,841	$5,217	1%	$49,087	14%	$306,537	85%
Dec-02	$428,718	$5,093	1%	$49,691	12%	$373,934	87%
Dec-03	$494,709	$4,604	1%	$49,019	10%	$441,086	89%
Dec-04	$279,987	$3,702	1%	$45,538	16%	$230,747	82%
Dec-05	$320,279	$3,830	1%	$48,957	15%	$267,493	84%
Dec-06	$350,290	$3,576	1%	$48,751	14%	$297,963	85%

The labor force employed by the commercial banking industry in California suffered a great loss in general. The number of employees went from 160,837 in 1992 to 66,650 in 2006, a 58% decline. The work force of small community banks dropped from 8,751 to 1,393, an 84% loss; for large community banks it dropped from 26,232 to 12,636, a 52% loss, and for large banks it dropped from 125,954 to 52,621, a 58 % loss. Large banks had a largest drop in number of employees, but the small community banks had a largest drop in percentage. During 1999 and again 2004 when large banks experienced huge losses in assets, their workforce also declined very sharply. When assets/employees ratio was compared, it was found that large banks had the highest efficiency and their superior efficiency widened over time. In 1992 the assets/employees ratios were $1,520 million, $1,866 million, and $2,123 million for small community banks, large community banks, and large banks, respectively. In 2006 these numbers improved to $2,567 million, $3,858 million, and $5,662 million for small community banks, large community banks, and large banks, respectively.

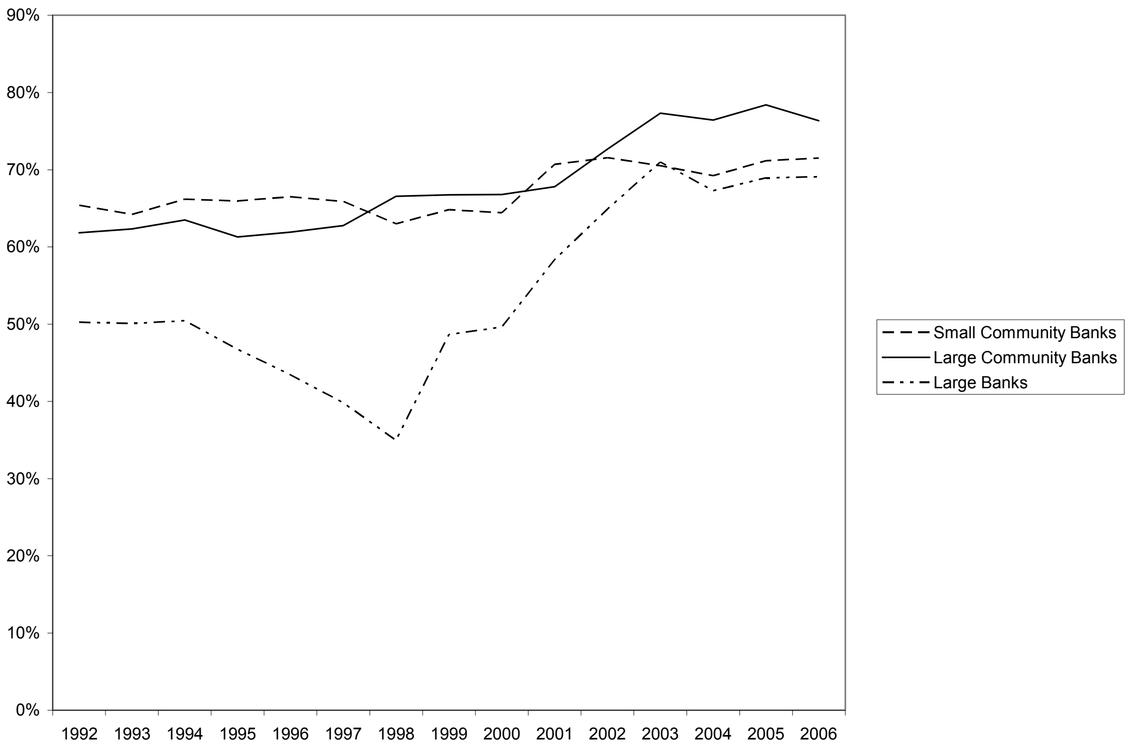
Based on the data obtained from (FDIC, 1992 to 2006) it was shown that small community banks had $8,793 million in loans in 1992 and $2,146 million in loans in 2006, a 76% decrease. Large community banks experienced a slight increase of 8% in loans from $31,797 million to $34,428 million, while large banks had a 10% increase in loans from $188,467 million to $207,337 million. Loans as a percentage of total assets declined for small banks from 66% to 60%, increased for large community banks from 65% to 71%, and stayed about the same at 70% for large banks. It is evident that small community banks had significant declines in loans along with assets; moreover, its decline in loans outpaced its decline in assets. In terms of market share, the loans of small community banks went down from 4% to 1%. The loss was mostly to large banks that had an increase in market share from 82% to 85%, while the market share of large community banks stayed about the same at 14%. Despite the large decline in loans, loans as a percentage of earnings assets increased for both small and large community banks; from 83% to 88% for small community banks and from 78% to 83% for large community banks indicating greater importance of loans in their portfolios. On the contrary, the loans as a percentage of earning assets for large banks declined from 87% to 81%, while the percentage of securities relative to earnings assets went up from 13% to 19%. Securities gained greater importance in accounting for the assets of large banks. Table 2 shows loans of all three bank groups.

Table 2 Loans of Commercial Banks in California

Loans	All institutions	Assets less than $100 million			Assets between %100 million and $1 billion			Assets greater than $1 billion		
In mil.			Market sh.	% of assets		Market sh.	% of assets		Market sh.	% of assets
Dec92	$229,058	$8,793	4%	66%	$31,797	14%	65%	$188,467	82%	70%
Dec93	$220,291	$7,504	3%	63%	$29,545	13%	61%	$183,242	83%	68%
Dec94	$230,377	$7,182	3%	62%	$26,992	12%	60%	$196,203	85%	68%
Dec95	$245,722	$6,278	3%	61%	$25,571	10%	58%	$213,872	87%	68%
Dec96	$275,160	$5,514	2%	61%	$27,377	10%	61%	$242,269	88%	67%
Dec97	$316,535	$4,636	1%	60%	$29,965	9%	60%	$281,934	89%	68%
Dec98	$335,652	$4,425	1%	59%	$29,987	9%	61%	$301,240	90%	66%
Dec99	$191,136	$3,995	2%	63%	$34,176	18%	64%	$152,964	80%	67%
Dec00	$207,305	$3,648	2%	64%	$31,312	15%	65%	$172,344	83%	65%
Dec01	$243,885	$3,347	1%	64%	$31,792	13%	65%	$208,746	86%	68%
Dec02	$295,829	$3,302	1%	65%	$32,095	11%	65%	$260,432	88%	70%
Dec03	$346,851	$2,900	1%	63%	$31,581	9%	64%	$312,370	90%	71%
Dec04	$186,936	$2,449	1%	66%	$30,599	16%	67%	$153,888	82%	67%
Dec05	$221,254	$2,368	1%	62%	$33,022	15%	67%	$185,864	84%	69%
Dec06	$243,914	$2,147	1%	60%	$34,428	14%	71%	$207,339	85%	70%
			2%	63%		13%	64%		86%	68%

The composition of loans further indicates that small community banks had significant declines in the dollar amount of real estate loans, business loans, individual loans and farm loans. However, the importance of real estate loans relative to total loans increased from 65% in 1992 to 72% in 2006, while business loans, loans to individuals, and farm loans all suffered declines in importance measured by percentage of all loans at the rate of 1%, 2%, and 1%, respectively. For large community banks, the dollar amount of total loans and real estate loans increased over time; nevertheless, the dollar amount of business loans, loans to individuals, and farm loans decreased over time. The importance of real estate loans to total loans increased from 62% to 76%, while the importance of business loans and loans to individuals decreased from 25% to18%, and from 10% to 4%, respectively. For large banks, the dollar amount of both total loans and real estate loans increased over time, except for the year of 1999 and the year of 2004 when the dollar amount of total loans and real estate loans dropped significantly. The dollar amount of all other loans decreased over time and the decline was significant in 1999 and 2004 as well. For large banks, real estate loans relative to total loans increased from 50% to 69%; business loans decreased from 25% to 19% and individual loans decreased from 14% to 7%. In summary real estate loans for all banks became more important in their loan portfolio, while business loans and loans to individuals declined in importance. In 2006, community banks had 76% of their loans in real estate and 22% in business loans and loans to individuals. O the other hand, large banks had 69% in real estate loans and 26% in business loans and loans to individuals. Although large banks had the greatest increase in the ratio of real estate loans to loans at the rate of 19% followed by large community banks of 14% and small community banks of 7%, the data suggested that community banks had a higher concentration in risky real estate loans in their loan portfolio than their larger counterpart. Figure 1 shows the relative importance of real estate loans to all loans for all three bank groups.

Figure 1 Real Estate Loans to Loans Ratio



A further look at real estate loans also indicated that 55% of the real estate loans of community banks were in the area of more risky commercial real estate while large banks only had 38%. For the evolving importance of real estate loans as part of loan portfolios, all three groups showed increase in importance in real estate loans; large banks exhibited the greatest gain. Moreover as of 2006 community banks had more real estate loans in their loan portfolios than large banks. Business loans showed steady declines in importance for large community banks and large banks, with large banks exhibiting the greatest loss. The loss of importance of business loans for large community banks and large banks might be attributed to the increasingly competitiveness of the commercial paper and corporate markets where businesses could alternatively raise capital. As of 2006, small banks had greater share of business loans relative to total loans than that of large community banks and large banks. The importance of business loans relative to total loans for small community banks remained about the same throughout 1992 to 2006.

3. LIABILITIES AND DEPOSITS

The liabilities and the ways in which California commercial banks obtained their funds were examined. The liabilities of small community banks declined from $12 billion (91% of their total capital) in 1992 to $2.6 billion (74%) in 2006; for large community banks the liabilities declined slightly from $45 billion (92% of their total capital) to $43 billion (88%). The liabilities of large banks increased from $247 billion in 1992 to $263 billion in 2006; however, the importance of liabilities as source of capital declined from 92% in 1992 to 88% in 2006. This suggested that all banks relied less and less on liabilities as sources of capital. Small community banks in particular showed the most significant decline in debt ratio from 91% in 1992 to 74% in 2006; they also had the lowest debt ratio among all three groups. The declining debt ratio translated to increasing equity ratio. Small community banks had the highest equity ratio of 26% in 2006. Both large community banks and large banks had an equity ratio of 12%. This outcome is mostly due to higher equity capital requirement imposed on small community banks by bank regulators. Lower debt ratio or higher equity ratio generally reduces the financial leverage of these banks and results in less volatile earnings. By having less debt in their capital structure, small community banks managed to lower their financial risk; but by having a heavier concentration in risky real estate loans in their loan portfolios, small community banks drew a greater risk to their assets. Table 3 shows the liabilities of all three bank groups.

Table 3 Liabilities of Commercial Banks in California

Liabilities	All institutions	Assets less than $100 million		Assets between $100 million and $1 billion		Assets greater than $1 billion	
In millions			% of capital		% of capital		% of capital
Dec-92	$303,741	$12,045	91%	$44,997	92%	$246,698	92%
Dec-93	$300,643	$10,768	91%	$43,974	92%	$245,901	92%
Dec-94	$317,556	$10,491	91%	$40,699	91%	$266,365	92%
Dec-95	$338,071	$9,267	90%	$39,567	90%	$289,238	92%
Dec-96	$378,360	$8,025	89%	$40,790	90%	$329,546	91%
Dec-97	$428,888	$6,787	88%	$45,421	90%	$376,681	90%
Dec-98	$469,188	$6,581	88%	$44,290	90%	$418,316	91%
Dec-99	$255,383	$5,545	88%	$48,005	90%	$201,833	89%
Dec-00	$286,430	$5,045	88%	$43,284	90%	$238,100	89%
Dec-01	$322,037	$4,495	86%	$43,966	90%	$273,577	89%
Dec-02	$384,469	$4,392	86%	$44,186	89%	$335,892	90%
Dec-03	$443,940	$3,914	85%	$43,350	88%	$396,676	90%
Dec-04	$247,730	$3,105	84%	$39,973	88%	$204,652	89%
Dec-05	$282,389	$3,045	79%	$42,645	87%	$236,699	88%
Dec-06	$308,302	$2,654	74%	$43,048	88%	$262,600	88%
Average			87%		90%		90%

Typical liabilities of commercial banks include deposits, federal funds and repurchase agreements, and other borrowing. The dollar amount of deposits declined significantly for small community banks and slightly for large community banks; it stayed about the same for large banks. The reliability of deposits as sources of liabilities was consistently high at 98% for small community banks; for large community banks it declined from 97% in 1992 to 91% in 2006, and for large banks it declined from 87% in 1992 to 82% in 2006. The market share of deposits for small community banks dropped from 4% in 1992 to 1% in 2006. For large community banks it declined slightly from 16% to 15%; nevertheless, for large banks it went up by 4%. Other borrowed funds declined in amount for small community banks while increased significantly for large community banks and large banks; other borrowed funds also grew in importance over time from 1% in 1992 to 6% in 2006 for large community banks, and from 3% in 1992 to 11% in 2006 for large banks. In addition, large banks used a lot more federal funds and repurchase agreements than both small and large community banks. Given the lower interest rates paid on deposits than those on other types of debt, community banks, specifically small community banks, were in a better position to rein in their interest expenses. Table 4 shows the deposits of all three bank groups.

Table 4 Deposits of Commercial Banks in California

Deposits	All institutions	Assets less than $100 million		Assets between $100 million and $1 billion			Assets greater than $1 billion		
In millions			Market share	% of debt		Market share	% of debt		Market share	% of debt
Dec-92	$271,213	$11,805	4%	98%	$43,671	16%	97%	$215,738	80%	87%
Dec-93	$267,034	$10,490	4%	97%	$42,611	16%	97%	$213,934	80%	87%
Dec-94	$275,419	$10,216	4%	97%	$39,429	14%	97%	$225,775	82%	85%
Dec-95	$286,428	$9,115	3%	98%	$37,955	13%	96%	$239,358	84%	83%
Dec-96	$321,516	$7,864	2%	98%	$38,543	12%	94%	$275,109	86%	83%
Dec-97	$361,470	$6,642	2%	98%	$42,945	12%	95%	$311,883	86%	83%
Dec-98	$398,768	$6,377	2%	97%	$40,827	10%	92%	$351,564	88%	84%
Dec-99	$226,292	$5,356	2%	97%	$43,204	19%	90%	$177,732	79%	88%
Dec-00	$238,507	$4,924	2%	98%	$39,687	17%	92%	$193,896	81%	81%
Dec-01	$257,627	$4,344	2%	97%	$39,627	15%	90%	$213,656	83%	78%
Dec-02	$305,934	$4,274	1%	97%	$39,523	13%	89%	$262,137	86%	78%
Dec-03	$367,362	$3,823	1%	98%	$38,541	10%	89%	$324,998	88%	82%
Dec-04	$218,320	$3,024	1%	97%	$35,914	16%	90%	$179,382	82%	88%
Dec-05	$243,035	$2,956	1%	97%	$39,010	16%	91%	$201,070	83%	85%
Dec-06	$257,575	$2,597	1%	98%	$39,085	15%	91%	$215,893	84%	82%
Average			2%	97%		14%	93%		83%	84%

4. PROFITABILITY, INCOME AND EXPENSES

The profitability of California commercial banks was looked into. The operating income of commercial banks was comprised of interest income and non-interest income. Between 1992 and 2006, the average interest income constituted about 83%, 81%, and 76% of operating income for small community banks, large community banks, and large banks, respectively. While community banks generated a greater percentage of their income from interest on loans than large banks, large banks were more able to generate non-interest income from fiduciary activities, service charges on deposit accounts, income from investment banking, and gains from sales of loans. Small community banks had the highest average yield on earning assets (interest income/earning assets) at 8.59%, followed by large community banks at 8.04%, and then by large banks at 7.44%. This further demonstrated the ability of community banks in generating interest income from their loans. Small community banks had the lowest cost of funding earning assets (interest expense/earning assets) at 2.29%, followed by large community banks at 2.53%, and then by large banks at 2.65%. This was likely due to the ability of community banks paying lower interest on their cheaper and more important deposits as sources of funds. Small community banks also had more favorable net interest margin (net interest income/earning assets) of 5.9%, compared to 5.4% for large community banks and 4.8% for large banks. The spread (interest income/earning assets – interest expense/interest-bearing liabilities) was 5.5% for small community banks, 4.9% for large community banks, and 4.3% for large banks. In both measures, small community banks came out ahead, followed by large community banks and then by large banks. This is due to higher yield on earnings assets and lower cost of funding incurred by community banks. Both net interest margin and spread of all three groups declined over time until 2005 when they started to rise. The declining net interest margin and spread could be the result of increasing competition from nonbank providers. Table 5 shows net interest margin and spread for all three bank groups.

Table 5 Net Interest Margin (Net interest income/Earning assets) and Spread (Interest income/earning assets – interest expense/interest-bearing liabilities) of Commercial Banks in California

	All institutions		Assets less than $100 million		Assets between $100 million and $1 billion		Assets greater than $1 billion	
	Net interest margin	Spread	Net interest Margin	Spread	Net interest margin	Spread	Net interest margin	Spread
Dec-92	5.7%	5.1%	6.5%	6.2%	6.1%	5.6%	5.5%	5.0%
Dec-93	5.6%	5.1%	6.5%	6.2%	5.9%	5.4%	5.4%	5.0%
Dec-94	5.4%	4.9%	6.7%	6.2%	6.0%	5.5%	5.3%	4.8%
Dec-95	5.3%	4.6%	6.9%	6.5%	6.0%	5.4%	5.1%	4.4%
Dec-96	4.9%	4.2%	6.3%	5.8%	5.6%	5.0%	4.8%	4.1%
Dec-97	5.0%	4.4%	6.1%	5.7%	5.6%	4.9%	4.9%	4.3%
Dec-98	4.8%	4.3%	6.0%	5.6%	5.3%	4.8%	4.7%	4.2%
Dec-99	5.2%	4.5%	5.9%	5.5%	5.1%	4.6%	5.2%	4.5%
Dec-00	5.3%	4.6%	6.3%	5.8%	5.6%	4.9%	5.2%	4.5%
Dec-01	4.6%	4.1%	5.3%	4.7%	5.1%	4.6%	4.5%	4.0%
Dec-02	4.6%	4.3%	5.0%	4.7%	5.0%	4.7%	4.5%	4.2%
Dec-03	4.4%	4.2%	4.5%	4.3%	4.5%	4.3%	4.4%	4.2%
Dec-04	4.3%	4.0%	4.8%	4.6%	4.5%	4.3%	4.2%	4.0%
Dec-05	4.4%	4.0%	5.4%	5.1%	5.0%	4.6%	4.3%	3.8%
Dec-06	4.4%	3.8%	5.8%	5.4%	5.1%	4.5%	4.3%	3.7%
average	4.9%	4.4%	5.9%	5.5%	5.4%	4.9%	4.8%	4.3%

Non-interest income to both earning assets and operating income were compared for all banks. Small community banks had the lowest average non-interest income to earning assets ratio of 1.8%, followed by large community banks at 1.9%, and then by large banks at 2.4%. Large banks also had the highest average non-interest income to operating income ratio of 24%, followed by large community banks of 19%, and by small community banks of 17%. The data suggested a greater importance of non-interest income to large banks than to community banks, and large banks' greater ability of generating income through activities other than loans.

Regarding non-interest expense, large banks had an average non-interest expense to earning assets ratio of 2.4%, large community banks of 1.9%, and small community banks of 1.8%. The data also indicated that small banks had a significant increase in non-interest expense to operating income from 59% in 1992 to an astounding 85% in 2006. For large community banks and large banks, non-interest expense to operating income ratio decreased slightly over time and stayed mostly in the 40% and 50% range of operating income. In sum, small community banks had decreasing non-interest income to operating income ratio but increasing non-interest expense to operating income ratio over the years. Their advantages of having higher net interest margin and higher spread were all but wiped out by having the disadvantages in having lower non-interest income and higher non-interest expense. The net income and net profit margin of small community banks was negative in 1992 and 1993; it turned positive in subsequent years and became negative again in 2001. It stayed negative from 2003 to 2006. On the other hand, increasing net profit margin was observed for large community banks and large banks with large banks showing even more impressive net profit margin. The overall average net profit margin from 1992 to 2006 was 15.95% for large banks, 11.72% for large community banks, and only 0.04% for small community banks. Table 6 shows net income and net profit margin of all three bank groups.

Table 6 Net Income and Net Profit Margin of Commercial Banks in California

	All institutions		Assets less than $100 million		Assets between $100 million and $1 billion		Assets greater than $1 billion	
In Millions	Net income	Net profit margin	Net income	Net profit margin	Net income	Net profit margin	Net income	Net profit margin
Dec-92	$1,851	6.14%	-$25	-1.88%	$3	0.06%	$1,873	7.74%
Dec-93	$2,751	9.79%	-$10	-0.92%	$34	0.81%	$2,727	11.95%
Dec-94	$3,479	12.34%	$32	2.97%	$121	3.20%	$3,325	14.27%
Dec-95	$4,734	14.48%	$68	6.69%	$347	8.84%	$4,319	15.57%
Dec-96	$3,939	11.43%	$62	7.34%	$391	10.18%	$3,486	11.70%
Dec-97	$5,696	14.12%	$46	6.66%	$546	12.48%	$5,104	14.47%
Dec-98	$3,781	9.12%	$31	4.70%	$542	12.42%	$3,208	8.81%
Dec-99	$3,154	12.70%	$29	5.30%	$552	12.41%	$2,573	12.97%
Dec-00	$3,499	11.88%	$23	4.43%	$562	12.69%	$2,914	11.90%
Dec-01	$5,128	17.68%	-$9	-2.16%	$527	12.93%	$4,610	18.78%
Dec-02	$5,657	20.17%	$9	2.60%	$654	17.38%	$4,995	20.84%
Dec-03	$7,019	21.67%	-$10	-4.07%	$578	18.42%	$6,451	22.24%
Dec-04	$3,860	23.74%	-$15	-7.49%	$567	19.02%	$3,308	25.29%
Dec-05	$4,631	23.15%	-$15	-6.73%	$666	19.06%	$3,980	24.44%
Dec-06	$4,312	17.60%	-$36	-16.79%	$619	15.84%	$3,730	18.30%
Average		15.07%		0.04%		11.72%		15.95%

To further understand the overly high non-interest expense ratio of small community banks, one could examine the ratio of provision for loan loss, salaries and employee benefits, premises and equipment expense, and additional non-interest expense relative to operating income. The data suggested that small community banks had the highest average provision to loan loss ratio of 6%, followed by large community banks at 5%, and large banks at 4%. The average salaries and employee benefits accounted for 32%, 32%, and 21% of the operating income of small community banks, large community banks, and large banks, respectively. The average premise and equipment to operating income ratio was 9% for small community banks, 7% for large community banks, and 6% for large banks. For average additional non-interest expense to operating income ratio, small community banks had the highest rate of 24%, large banks the lowest of 17%, and large community banks 18%. The fast rising non-interest expense for small community banks proved to be detrimental to their bottom line. For example, in 2006 small community banks suffered a large negative net profit margin manifested by a huge non-interest expense to operating income ratio of 85% while large community banks had a much lower ratio of 48%, and large banks had a ratio of 37%.

5. RETURN ON ASSETS AND RETURN ON EQUITY

Large community banks had the best average ability of utilizing their assets in generating operating income as seen by their asset utilization ratio of 8.21% , followed by small community banks at 8%, and lastly by large banks at 7.77%. Nevertheless, asset utilization ratio declined over time for all three groups indicating all banks were less able in generating operating income using their assets. Overall large banks had the highest average return on assets (ROA; net income/total assets) of 1.19%, followed by large community banks at 0.92%, with small community banks trailing at 0.08%. Large banks scored a higher average ROA due to their higher non-interest income and lower non-interest expense ratios despite their relatively lower ability in generating operating income by utilizing their assets, and their relatively lower net interest margin and spread. As discussed previously, large banks had the highest level of debt and therefore the highest average equity multiplier of 10.3, followed by large community banks at 9.91, and small community banks at 8.05. The average ROE of large banks was further enhanced by having more debt in their capital structure. The average ROE was 12.05% for large banks, 8.65% for large community banks, and 1.28% for small community banks. The ROA of both large community banks and large banks increased over time while that of small community banks declined over time; on the other hand the ROA of large banks had greater volatility than that of community banks. The ROE, further affected by the effect of financial leverage, became even more volatile for all three bank groups. Figure 2 shows the ROE all three bank groups.

Figure 2 ROE of Commercial Banks in California

6. RISK MANAGEMENT

To measure the quality and the risk of loans, the noncurrent loans and leases were looked into. These were loans and leases that were 90 days or more past due and not accruing interest. All three bank groups had high noncurrent loans in the early 1990s. Since then the amount of noncurrent loans and leases declined over time. However, it rose again between 2001 and 2003, and fell significantly in 2004. The two economic downturns that occurred in 1992-1994, and 2001-2003 explained the high levels of noncurrent loans during these two periods. The noncurrent loans and leases to total loan and leases ratios declined sharply after the two economic downturns. The ratios were in the high 3% to 4% level during the early 1990s for all three bank groups; the ratios declined in the late 1990s and improved even more significantly into the early 2000s to less than 0.50%. Overall small community banks had an average noncurrent loans and leases to total loans and leases ratio of 1.46%, large community banks 1.53%, and large banks 1.33%. Large banks fared slightly better than community banks in noncurrent loans and leases ratio. It appeared that community banks were subject to greater credit risk than large banks.

Net charge-offs is actual loan losses on loans and leases. The net charge-offs exhibited a similar pattern to that of noncurrent loans and leases. The average net charge-offs to loans and leases ratio was 0.57% for small community banks, 0.56% for large community banks, and 0.47% for large banks. Once again, large banks suffered smaller net charge offs relative to loans and leases than community banks. Loss allowance to loans and leases are banks' estimate of loans and leases that will not be repaid based on recent loan loss experiences. Loss allowance, although an estimate, is subject to tax limitation and it does affect banks' balance sheet and income statement. Both the amount of loss allowance and its ratio to loans and leases showed a consistently declining pattern over time for all three bank groups. This suggested a greater confidence in the credit risk taken by all three bank groups over time. The average loss allowance to total loans and leases ratios were 1.8%, 1.8%, and 2.1% for small community banks, large community banks, and large banks. However when loss allowance was compared to noncurrent loans and leases, the ratio went up and down throughout the years and the ratio was greatly affected by the rise and fall of noncurrent loans. The noncurrent loans seemed to decline at a faster rate than loan allowance to result in very high loan allowance to noncurrent loan ratios. For instance, the highest ratio of 621% was observed in 2004 for small community banks and the lowest ratio of 56.4% was observed in 1992 also for small community banks. The average ratio of loss allowance to noncurrent loans was 218% for small community banks, 190% for large community banks, and 206% for large banks. Table 6 shows the net charge-offs of all three bank groups.

Table 6 Net Charge-offs of Commercial Banks in California

	All Institutions		Assets less than $100 million		Assets between $100 million and $1 billion		Assets greater than $1 billion	
In thousands	NC	% of LL	NC	% of LL	NC	% of LL	NC	% of LL
Dec-92	3,461	1.51%	105	1.20%	461	1.45%	2,895	1.54%
Dec-93	2,610	1.18%	110	1.47%	438	1.48%	2,062	1.13%
Dec-94	1,531	0.66%	76	1.06%	357	1.32%	1,098	0.56%
Dec-95	1,266	0.52%	56	0.89%	251	0.98%	959	0.45%
Dec-96	995	0.36%	33	0.59%	184	0.67%	778	0.32%
Dec-97	1,001	0.32%	25	0.53%	174	0.58%	803	0.28%
Dec-98	1,478	0.44%	25	0.55%	100	0.33%	1,354	0.45%
Dec-99	1,001	0.52%	25	0.62%	174	0.51%	803	0.52%
Dec-00	1,478	0.71%	25	0.67%	100	0.32%	1,354	0.79%
Dec-01	673	0.28%	12	0.36%	101	0.32%	560	0.27%
Dec-02	352	0.12%	3	0.08%	22	0.07%	327	0.13%
Dec-03	998	0.29%	4	0.14%	51	0.16%	943	0.30%
Dec-04	292	0.16%	3	0.12%	29	0.09%	261	0.17%
Dec-05	206	0.09%	3	0.11%	15	0.05%	188	0.10%
Dec-06	268	0.11%	3	0.13%	18	0.05%	246	0.12%
Average		0.48%		0.57%		0.56%		0.47%

NC: net charge-offs. LL: loans and leases.

Capital adequacy measured by Tier I capital relative to risk-adjusted assets was examined. Tier I capital includes the book value of common equity, preferred stock, minority equity interests held in subsidiaries minus goodwill. Goodwill reflects the amount above the market value paid by the bank when purchasing or acquiring other banks or subsidiaries. Risk adjusted assets are on-balance-sheet and off-balance sheet assets after adjusting for market risk, credit risk, and operational risk. The Tier I core capital to risk-adjusted assets ratios rose over time for all three bank groups. It rose from 12% in 1992 to 36% in 2006 for small community banks, from 11% to 14% for large community banks, and from 7% to 10% for large banks. The average ratio was 18.7% for small community banks, 12.4% for large community banks, and 8.9% for large banks. These figures showed that small community banks provided greater capital adequacy than their larger counterpart and that small community banks had the greatest increase in Tier I core capital to risk-adjusted asset ratio over the years. Table 7 shows Tier 1 capital adequacy of all three bank groups.

Table 7 Tier-1 Core Capital to Risk-adjusted Assets of Commercial Banks in California

In million	All Institutions		Assets less than $100 million		Assets between $100 million and $1 billion		Assets greater than $1 billion	
	TCC	% of RAA	TCC	% of RAA	TCC	% of RAA	TCC	% of RAA
Dec-92	$22,261	8.0%	$1,193	12.3%	$3,868	10.7%	$17,199	7.4%
Dec-93	$24,354	9.3%	$1,091	12.9%	$3,929	11.6%	$19,334	8.8%
Dec-94	$24,871	9.2%	$1,101	13.8%	$3,904	12.6%	$19,865	8.6%
Dec-95	$26,727	9.2%	$1,031	14.6%	$3,996	13.4%	$21,700	8.6%
Dec-96	$28,805	8.8%	$940	15.0%	$4,056	12.9%	$23,809	8.2%
Dec-97	$34,532	8.8%	$873	16.6%	$4,270	12.1%	$29,239	8.3%
Dec-98	$35,057	8.2%	$887	17.2%	$4,270	12.1%	$29,900	7.8%
Dec-99	$22,680	9.5%	$759	16.7%	$4,649	11.7%	$17,272	8.9%
Dec-00	$24,207	9.2%	$648	15.8%	$4,287	11.9%	$19,272	8.6%
Dec-01	$28,422	9.2%	$711	19.3%	$4,365	11.9%	$23,346	8.7%
Dec-02	$32,364	9.4%	$691	19.0%	$4,791	13.1%	$26,883	8.8%
Dec-03	$36,591	9.4%	$675	20.8%	$4,544	12.6%	$31,372	9.0%
Dec-04	$24,902	11.5%	$590	21.4%	$4,467	12.8%	$19,845	11.1%
Dec-05	$29,619	11.3%	$784	29.2%	$5,171	13.8%	$23,663	10.7%
Dec-06	$32,372	11.0%	$916	35.5%	$5,333	13.6%	$26,123	10.4%
Average		9.5%		18.7%		12.4%		8.9%

TCC: Tier I core capital. RAA: risk-adjusted assets.

To understand how each bank group was affected by the rise and fall of interest rates over time, the maturity structure of the assets of all three bank groups was further looked into. The longer the maturity of their assets, the more sensitive is the value of these assets to changes in interest rates. The amount of assets with maturity longer than 5 years and its relative importance relative to total assets was examined for all three bank groups. It was observed that there was a trend of rising importance of long-term assets relative to total assets over time among all bank groups. The average long-term asset ratio was 12%, 17%, and 19% for small community banks, large community banks, and large banks, respectively. Large banks had more long-term assets than small bank and were subject to greater interest rate risk than small banks. The use of derivatives markets (options, futures, forward contacts and interest rate swaps) by all three bank groups in managing their risk for hedging and other purposes was looked into. Small community banks hardly used any derivatives at all, and the biggest users were the large banks. The amount used by large banks and large community banks varied from year to year, and there did not exist any consistency in using derives when compared to total assets over time. On average, the total face value of derivates used accounted for about 254%, 15%, and 0% of total assets for large banks, large community banks, and small banks, respectively.

7. CONCLUSION

In conclusion, this study found that small community banks has been losing market share in terms of number of banks and value of assets. Small community banks also had a decrease in the market share of loans; however, there was a significant increase in the importance of more risky real estate loans in their loan portfolios, and therefore the overall risk of their loan portfolios. It was shown that small community banks relied less heavily on debt capital than their larger counterparts, and that deposits were the most important source of debt capital for small community banks. The interest income from loans resulted in the highest interest income on earning assets for small community banks. The interest expense on deposits at a relatively low cost resulted in the lowest cost of funding from deposits for small community banks. Overall, small community banks had the highest net interest margin. However, small community banks had low non-interest income to earnings assets ratio and overwhelming very high non-interest expense to operating income ratio. The net profit margin of small community banks declined over time and became negative in recent years, mostly due to high non-interest expense. The ROA and ROE of small community banks were both lower than those of their counterparts. In terms of credit risk, small banks fared worse than other banks due to a higher noncurrent loans and lease ratio. In terms of capital adequacy, small banks fared better due to its reliance on equity capital. Small community banks had relatively less long-term assets than their large counterparts, and small banks hardly used any derivatives in managing interest rate risk of their long-term assets. The future challenges of small community banks include managing their non-interest expense, the risk of their loan portfolios, improving their competitiveness for similar services provided by banks and nonbanks, and evolving with the ever changing technology.

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DISCRETE EVENT SIMULATION AND LEAN PRODUCTION: A DISCUSSION AND A CASE DEMONSTRATING INTERDEPENDENCY BETWEEN THEM

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ABSTRACT

A central mission in organizational management is to operate a lean enterprise to control and reduce costs, increase flow and velocity while maintaining quality of the products the organization produces. The purpose of this project is to present when to use and support for using discrete event simulation (DES) in complex settings to determine if a process solution derived by following lean principles is worth doing. Literature indicates when to use DES and a case is utilized to demonstrate support for using DES. A relatively complex manufacturing production shop was simulated to determine the affect of reinstituting a supermarket of finished goods after following the solution of a lean project that eliminated the original supermarket. Research such as this is important to further effective process management.

Keywords: *Discrete Event Simulation, Lean Enterprise, Lean Production, Process Management*

1. INTRODUCTION

Lean production is primarily concerned with eliminating waste while maintaining value to customers (Ohno, 1988). Unfortunately, like 'romantic' Just in Time (Zipkin, 1991), there is a 'romantic' lean that concentrates only on eliminating the seven wastes regardless of the affect on profits, which can and often does lead to myopic decisions that hurt overall system health. This result is not the intent of lean practice and seldom happens in situations where an enterprise's processes and product mix display little variability. However, as Suri (Suri, 2004) proposes, there is an advantage to maintaining or creating what he calls 'strategic variability'. Thus, many organizations do have complex systems (lots of variability) where reducing one of the seven wastes can and does lower profits. Also, such systems resist optimal modeling techniques, as the causal variables are neither deterministic nor independent. Such systems lend themselves to DES to determine if a prescribed lean initiative will or will not increase profit. Presented in this paper is a discussion of waste, DES, variability, and a case where the use of DES showed the effects of going back to a supermarket of finished goods inventory that was previously eliminated due to implementation of a solution determined through a lean project. The organization implemented the supermarket and they have decreased costs and increased profits.

2. DISCUSSION OF TERMS (Waste, DES, and Variability)

2.1 Waste

The seven wastes (muda) that Ohno (Ohno, 1988) identified are:

1) Overproduction or building what has not been sold. If a product is produced without a buyer, by default it has to go into inventory where it can be damaged, go obsolete, be stolen, and it does have the cost of producing/buying it tied up.
2) Transportation of the product in its various stages of completion. Moving product from point A to point B adds no value to the product, only cost.
3) Inventory of product in any of its stages, raw materials, work in process, finished goods, or in transit. See number one above for the costs of inventory.
4) Motion of resources such as people and/or machinery. If a worker has to walk to a tool rack or raw materials bin, that worker is not adding value to the product. Thus, whatever the worker needs should be as close as possible to the transformation station so they do not waste time going to fetch what they need.
5) Defective product can cost due to rework, scrap, warranty costs, loss of customers, law suites, recalls…
6) Over-processing refers to doing more to the product than is necessary to satisfy the customer. Over-processing ties up resources that could better be used in creating more products to sell.
7) Waiting for a process step to start is where products are most of the time in many systems. If a product is sitting, it means money is sitting doing nothing for the owners.

Other people have added different wastes to the original set, however, as Miller (Miller, 2005) suggests, these other 'wastes', such as complexity and not utilizing each employee's complete set of abilities and skills, are causes of one or more of the original seven wastes, not waste themselves. Lean is a collection of tools and methodologies to determine waste and then determine how to solve the waste issue.

2.2 Discrete Event Simulation (DES)

DES is designed to model complex processes where events happen at discrete times, but the time between events is stochastic. An event is anything that changes attributes and/or variables related to a product, and\or statistics of a process. Examples of an event are products arriving or departing from a process. The advantageous of DES are that the changes to resource utilization, flow, velocity, costs, and profit due to a system change can be determined within a given confidence level without having to change the system itself. Thus, organizations do not have to spend resources to actually change the system and then have to wait to see the actual effects to determine if an idea is profitable or not. Of course modeling the system is not inexpensive. Therefore, only using DES to model complex systems with some sort of complex interaction between stochastic variables show positive financial results. If all variables are deterministic, then simple algebraic computation can and probably should be used (Kelton, 2007).

2.3 Variability

Suri, posits that there are two types of variability, dysfunctional variability and strategic variability. Dysfunctional variability in a process is due to process times being inconsistent when the product type is consistent, set up times that vary when the product does not, varying attributes of raw material, inconsistency of human performance, and… Strategic variability is what an organization designs into its enterprise wide processes to deal with unexpected changes in demand so that they can maintain their designed level of quality, speed, and flexibility. Speed refers to an organizations ability to design and deliver new products to market and their delivery lead time once a product is ordered. Flexibility refers to the organizations ability to meet the different product requirements of their customers. When lean is used to eradicate all variability through standardization and level flows (both are needed to eliminate all 'waste'), strategic variability is lost along with its resulting competitive advantage and profitability. When a system has strategic variability due to product differentiation and demand fluctuation, process times, lead times, and raw materials can all vary considerably, even if dysfunctional variability has been eradicated. Such a system with or without dysfunctional variability is perfect for DES modeling to determine if a 'waste' found through lean practices is worth eradicating. The system described below is such a system that still had dysfunctional variability.

3. DES PROJECT

An organization produced 875 parts, which it then assembled into ten different unique products based on a strategic decision to fulfill different market segments. This strategic decision necessitated part complexity. Each part had different paths through the production process and had different processing times at each process station. These parts were shipped to the assembly plant as a part kit for a specific product. Getting all parts to a kit at the same time required complex scheduling and robust production and assembly processes. To ensure on time delivery, a supermarket of all parts was maintained, but due to a lean initiative, production started producing directly into kits, not into finished goods (FG). Eliminating FG's did save some money and space. The space was used for more production equipment. Disruptions due to internal and external scrap and rework were solved by expediting the part in question through the parts production process. Expediting disrupted the sensitive parts production and product assembly processes causing overtime costs well beyond the money saved from not having FG's. To determine the cost savings from having a strategic amount of FG's in a supermarket, a simulation of the parts production facility was conducted using Arena by Rockwell.

The simulation model was validated against the proceeding year's production metrics. Developing FG's for all parts was not possible due to the new space limitations; however, there was room for a supermarket of parts which had relatively higher scrap rates than other parts. The simulation model was changed to evaluate the affect on flow, cost, utilization, and velocity. Thirty iterations of one year each with a three month warm up were conducted to determine a 95 percent confidence level. Flow staid the same, as demand did not change. Costs went down substantially as overtime costs were much more expensive than the modest cost of FG's inventory in the supermarket. Resource utilization staid constant and velocity increased because parts did not have to wait for so many expedited parts to go by. The organization put the supermarket in place based on the results of the simulation with the savings predicted by the model confirmed.

In addition to the information used to determine which parts to have in the supermarket and what the bottom line would be for such a business rule, the cost information relative to the supermarket informed process managers of how much money they would save if they were able to increase the robustness of the production and assembly process by reducing the dysfunctional variability. They found that recovering the cost of the FG's supermarket alone would not pay for any substantial change in the production system nor would it cover the costs associated with standardizing the end products and losing any of the market segments that were being served.

4. CONCLUSIONS

In the above example lean was 'romantically' applied to a complex system that had both dysfunctional and strategic variability caused by part and product complexity. The results of applying the lean initiative were higher costs, reduced velocity, and late shipments over several years. Utilizing DES to evaluate different business rules regarding different sizes of a FG's supermarket produced a plan to follow that did increase profit while meeting market opportunities. It is reasonable to assume that if DES had been utilized to evaluate the initial 'romantic' decision, another decision would have been made that would have resulted in saving substantial money over the several years that the organization tried to produce directly into kits.
It is clear that no process management methodology such as lean manufacturing, six sigma, and/or total quality management should be blindly followed. A cost benefit analysis is always needed and DES is a tool that a process manager can use to conduct such an analysis of complex systems.

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A CALL FOR MASHUP CLARIFICATION: AN ONTOLOGY APPROACH

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ABSTRACT

Mashups are one of the many available development approaches to software design for the web. Combining data resources through API's, excel documents, web pages and many other data sources, each creator has his own conceptualization of a Mashup. Once only created by experienced programmers, modern software development tools and applications have encouraged individuals to create and share their Mashups. Outside of Information Technology, other research and application areas are using their own Mashup programs to access, analyze and present information in a new format. The outcome of this type of software collaboration has resulted in a dynamic mix of perspectives and interpretations of Mashups. In order to continue to advance Mashups and avoid possible communication and sharing challenges, we recommend the creation of an ontology. In this paper, we provide a detailed discussion about the history and the different perspectives of Mashups, followed by a presentation of the different techniques used in their development. We then present the justification for creating an ontology for the field of Mashups as it can facilitate collaboration, information sharing and add continuity to the field. The chief objective of an ontology is to collect, filter, analyze, classify, and organize information effectively with the support of the domain experts. Based on the information published in literature, we compare and contrast three different approaches to ontology design and propose the collaborative approach for developing a Mashup ontology. The creation of an ontology minimally impacts current applications and strengthens future designs of Mashups.

Keywords: *Mashups, Information Technology, Ontology, Technology Management, Technology Strategy, Knowledge Management*

1. INTRODUCTION

Mashups by design are in a constant state of change; pulling real-time information from multiple sources and presenting the results to the user. The ability to extrapolate data and functionality from different websites is the core of this software application architecture. Mashups are an emerging web application development approach in the field of Information Systems (Di Lorenzo et al. 2009), however the combination of multiple computer systems through a single method of communication, specifically API's (Application Programming Interfaces), are not a revolutionary concept.

The IT (Information Technology) industry has released open API's and databases that enable anonymous users and developers access to information. Mashups have been able to create value by tapping public resources and combining the results to create a new application. Additionally, Mashup supporters facilitate the growth of the domain by instructions on how to access the data and building on the original developer's design. The abundance of useful and public API's have assisted in the development of Web 2.0. Websites and applications can now present information from different vendors all in a single interface for computers, mobile devices and kiosks. The compilation of different API's to create a new application or functionality is the core of a Mashup.

Mashup is a term also referenced within the music industry where two songs are combined to create a new song (Ogrinz, 2009; Abietboul et al. 2008). IS (Information System) uses the term to explain an application that incorporates information from multiple sources into a single software program (Zang and Rosson, 2008). Mashups are becoming more common as websites create and share API's. An API creates a standard communication exchange, enabling other programs, websites and users to interact with another computer system.
Open API's offer developers and users the ability to access publically available information. System creators can incorporate the source's information to add value to the new application. API's offered to the public are consistently vetted by multiple stakeholders. Even if the API's owner does not adequately test the code, the Mashup developer and Mashup user will verify the results. If the information is not

available, users can notify the developer, ignore the issue or leave the site. Self-reporting of errors aids in the development and support of the APIs. Through relaying problems to the individuals who can fix the application, API's are part of a climate of perpetual improvement. Developers are more willing to use a reliable API. API can be incorporated into many different systems. A developer may reuse a single API through several systems. The incorporation of API's offers the developers the opportunity to incorporate similar programs to address challenges. In addition to saving time and programming by reusing code, incorporating API's to new applications is limited only by the imagination of the developer.

Until recently, the creation of Internet applications and API's had been limited to experienced programmers (Cho, 2008) . Simple, yet technologically advanced software development tools have offered software developers, programmers and users opportunities to create and distribute their applications ("Call for Papers," 2009). The software applications and interfaces currently available allow anyone with a web browser to create, link and share Mashups. Mashups can be created by anyone through programming, linking to other sites and utilizing Mashup specific software. Mashup developers primarily use specialized web based development languages (Zang et al., 2008). However, the predominant tools of choice for Mashup creators, as surveyed by Zang et al. (2008), were web-based APIs. Everyday Internet users can now access websites to create Mashups without the need of any programming.

Yahoo Pipes and Intel's Mash Maker are two tools developed to bring Mashup creation to the masses. Each web site allows users to create a Mashup, pulling information from multiple data sources and applications to create a new web page. Yahoo Pipes gathers content from multiple sites together in a single location. Users can select from the available modules to create their own Mashup. Intel's Mash Maker is a competitor to Yahoo Pipes. Mash Maker is currently in the beta stage of development. The software is meant to provide a new method of browsing the Internet. Users can create their own sites to display pertinent information from multiple sources in one web page. The software works with a user's website preferences to suggest possible Mashups. Mash Maker brings the data closer to the end user to better meet the interest of the consumer (Ennals et al., 2007).

Regardless of the environment, data or location, Mashups can be developed to overcome business challenges and make IT more efficient. In a global marketplace, Mashups offer tools to solve logistical problems while saving time. For example, a company that wanted to provide training to several employees at different locations can create a video training interface; conversely, the company could save time, money and other valuable resources by creating a Mashup that could combine the company training website and YouTube. Additionally, the company can avoid creating directions for each office by accessing Google Map's API. Through the combining and repackaging of information, Mashups can provide increased utility and effectiveness from a system.

One of the initial Mashup creators, Paul Rademacher, developed an API for Google Maps in order to plot points of information from one website onto a map (DuVander, 2010). The goal for the developer was to combine Google Maps and Craigslist to display housing information on a map based on the contents of Craigslist. Users could access the site for a specific city and find all the Craigslist housing locations presented on a map. The site also shows data points on Google Map describing the contents on Craigslist.

In two other examples of websites combining API's, which Floyd (2006) cited, quickmaps.com and Flickr-Google maps were discussed. The former combines local news stories with Google Maps to show the location of an event and the latter helps mark locations where an individual's Flickr photos were captured. A final example of a Mashup comes from Yahoo Pipes, where individuals can create Mashups by linking to RSS (Really Simple Syndication) feeds, websites, applications and other Yahoo Pipes. With such broad interpretations of a Mashup and a wide variety of examples currently available for public use, there has been increasing ambiguity in the field.

Defining a Mashup is further complicated by references to Web 2.0 as the foundational platform for Mashups (Schroth and Christ, 2007; Kongdenfha, 2009). However, the definition of Web 2.0 has fundamental weaknesses. Tim Berners-Lee, the father of the modern World Wide Web, stated he "…think(s) Web 2.0 is of course a piece of jargon, nobody even knows what it means" (Langingham, 2006). Web 2.0 is an abstract unstandardized idea that does not help the challenges of discussing and advancing Mashups. The field of Mashups is developing at a rapid pace. We believe an opportunity exists to address the shortcomings of the approach and strengthen a rapidly growing field.

Mashup means different things to different people. Ogrinz (2009) identified several misconceptions around the concept. Mashups are not dependent on a single technology tool. No requirement states a Web 2.0 tool or the types of data sources that have to be used in their development. Another aspect of Mashups is the requirement of at least two different sources to create a new and completely unique product. "It is more accurate to say that all composite applications are Mashups, but not all Mashups are composite applications." (Ogrinz, 2009, pg.9). Information is gathered from the public domain as well as through API's. The data extraction occurs in real-time.

In the following sections we highlight Mashups using Web tools such as Yahoo Pipes. We also discuss the use of spreadsheets and websites to create them. Thirdly, we address multiple types of data sources to create Mashups. We offer a definition of Mashups to aid in the understanding of some of the details of the developmental approach. Through a detailed literature review, we justify Mashups to be real-time, networked and on-demand applications. Using current examples, Mashups are created when a user requests information. These ideas, even though scattered across the literature, begin a deeper and yet convoluted view of Mashups. The conflicting perspectives impede the communication and progression of Mashups as a domain.

We propose the creation of an ontology as a possible solution to improve and advance the domain. The lack of a common communication language can be an impedance to sharing knowledge and information (Gruber, 1993). Ontologies can improve collaboration, information sharing and add continuity to the field (Chandrasekaran et al., 1999). Noy and McGuiness (2001) also supported ontologies as an approach to clarifying and strengthening a domain. Initiating ontologies is a problem (Gruninger and Fox, 1995), we believe currently, exists in the field of Mashups.

In order to present ontologies as a possible solution to the current Mashup domain, we have separated the article into five separate sections. In Section 2, we discuss and outline the different perspectives and the state of Mashups in literature and practice. The next section, Section 3, details the benefits of creating an ontology. Section 4 elaborates on several different approaches academics and practitioners can use to create, develop and share an ontology. This section further recommends an approach to creation of an ontology. The final section, Section 5, provides the concluding remarks including the recommendations for further research. Through the benefits of a common ontology, we believe that such an undertaking would aid in the understanding of the framework and increase clarity of Mashups among the community participants.

2. MASHUPS

2.1 Explaining Mashups

The history of the term Mashup comes from the music community. When two or more tracks were combined together, the new product was called a Mashup. The new track could take as little or as much from a single song and combine one or more different songs to create a synergistic product. Layering, supplementing and revising were all possible in order to create a better song. IT's perspective on Mashups include the combination of material, creating new and different interpretations with the combination of at least two different sources. Hartman et al. (2008) defined Mashups as components of software developed from one or more web API's. Even though the definition includes a web component, similar to Jackson and Wang (2007), the article details hardware Mashups. Their description of hardware Mashup examples provided illustrations of Mashups using physical objects and software.

Companies, individuals and the IT industry have encouraged the widespread use of API's to encourage the growth of available Mashup components. Companies create API's that enable anonymous users to access information while providing instructions on the format and presentation of the data. These API's have enhanced the development of Web 2.0. Websites and applications can now present information from different web sites all in one location or device. The compilation of different API's to create a new application or functionality is an example of a Mashup.

API's serve multiple purposes for the organization including marketing, sharing information, a new revenue stream as well as a means to improve service. An example of an API that is being frequently used to create Mashups is Google Maps. Users have free access, or in the case of higher frequency users may have to pay for access, to harness the utility of Google's mapping and geo-coding capabilities. The advantage is that application designers can avoid the cost and overhead associated with an expensive unknown vendor and work directly with Google. With the GoogleMap API, new applications and websites have emerged that combine at least one other source of data to produce a new product. This union among API's is another example of a Mashup.

As more API's become available to public or private corporations, opportunities arise for all of the stakeholders to mix and match services. The API providers, Mashup creators and the consumer all have direct and indirect benefits from this collaboration. The API provider can sell the information, restrict access and curtail the use of the content. Mashup creators are limited only by their creativity and usage policies of the APIs. No extreme development experience is necessary; an entire business can be created from the combination of two different APIs.

The consumer is the real winner with Mashups. Each visitor decides the relevance of the information to his or her needs and can choose to support the Mashup. Instead of consumer seeking new information from multiple website locations, a Mashups could streamline the information gathering phase to one step. Intel's Mash Maker is an attempt to match customer trends thus anticipating the user's needs and create a specialized Mashup. The support of the Mashup community can even turn the consumer into a Mashup creator. The benefits of encouraging Mashups, through API development, seem to indicate that an opportunity exists to encourage business to create and publicize their code.

The ability to share information among multiple computers has evolved dramatically since ARPANET. From a military only sharing network, then academic use, the start of the Internet facilitated sharing of global resources. The Internet has evolved to meet the specific needs of the participating stakeholders. Specialized web sites have expanded to fit niche stakeholder demands. Mashups are a way to combine these resources into a single source of information. Hand-held computers can now be connected and communicate directly with any number of servers. Information can be shared regardless of operating system, location, or format when an API is available. Public API's enable anyone to create a Mashup when combined with a different API. The modern Web 2.0 encourages the exchange of information and Mashups are one tool that has the ability to benefit the entire web community.

Jhingran (2006) detailed the resemblance of Mashups to the mixture of data and application layers of the 1970's and 1980's. The blend of resources in the era of programming reduced the speed of program reuse. Components had to be redeveloped since a distinction among the layers could not be determined. In modern Mashups, a similar challenge has occurred with web-based applications. Mashups are developed so quickly, that there is no clear separation between the data and application layers. The authors' analysis of the current challenges in the field was one of the supporting motivations for this article.

The overlapping of the two layers was documented in the examples and approaches presented by Lingam and Elbaum (2007). The authors outlined the process of clipping which takes the content a user requests and displays the results in a web page. Using an example of a single worker travel agency, the authors illustrate how the proprietor goes out to the web, clips relevant content from pertinent web sites and then pastes the information on the agency's website. Even with advanced web creation tools, the task is basic and time consuming. Clipping works only with capturing the data layer. Additionally, the information on the agency's website becomes redundant as the information on the source websites are updated or changed.

The two articles by Jhingran (2006) and Lingam and Elbaum (2007) highlight the challenges of distinguishing from earlier web development approaches in the Mashup domain. For both scenarios, each author encountered issues with the ever evolving data and structure. Each relied on a well experienced professional to update and maintain the Mashup. A third challenge was the legal issues of accessing and copying the information (Gerber, 2006). The latest versions of Mashups have addressed some of these issues, but still there are other challenges in the development of Mashups. These are discussed in the following section.

2.2 Need for an Ontology or a Common Language for Communication

Over half of the Mash-up resource providers in a 2007 report from programmableweb.com come from GoogleMaps (Schroth and Christ, 2007). Few companies have the majority of the public API's that are combined in Mashups. Even though services, like Yahoo Pipes, allow individuals to tap any web-based resource, this is not the norm. Mapping and photo Mashups held over half of the market share in the programmableweb.com survey (Schroth and Christ, 2007). Even though literature supports wide approaches to Mashups (Tuchinda et al. 2008), the survey results indicate ambiguity and conflicting interpretations of the marketplace.

When explaining a Mashup, there is no clear definition of the term. Zang et al. (2008) classified Mashups as "integrated web applications". Alternately, Lopez et al. (2008) labeled Mashups as an arrangement of different functionality from multiple websites to create something new. Instead of defining the term, Lorenzo (2009) used the phrase '*aggregator*' to explain how Mashups are developed. However, Zang and Rosson (2008) define Mashups as a combination of data sources and API's which extends beyond just web applications. Goodman and Moed (2006) present a concept encompassing more than the previous definitions; a Mashup could be any software with two or more data sources. This lack of a common definition impedes the sharing of information and negatively impacts the design approach. Ontologies provide a common language that facilitates communication among the field participants.

In Figure 1, we present a probable interpretation of Mashups as defined by Zang and Rosson (2008). This figure presents a single perspective of Mashups. Most of the authors identified in this document share the view that API's and web pages are part of a Mashup. Beyond this shared perspective, the definition splits. Without clarifying the basic definition, Mashups tools and applications are limited. Yahoo Pipes, a web development tool for aggregating multiple data sources, is a Mashup creator. Instead of limiting a Mashup to API's or data sources, Yahoo Pipes allows arbitrary selection of available information. The concern is that the expansion of Mashups will merge into Web 2.0 applications. If this would occur, there would be no clear separation between Web 2.0 and Mashups. If there is no distinction among the two domains, each area could become more ambiguous. By refining one domain, participants would have additional resources to explore the other directly.

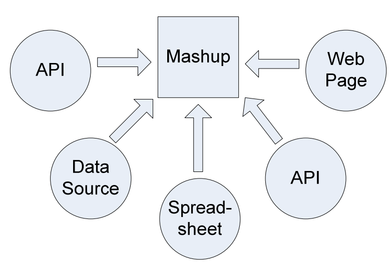

FIGURE 1 – MASHUP INPUTS

Additionally, a detailed review of the literature identified other tangential contributions that are discussed in the following paragraphs. Articles using one definition could extend the domain away from the other core perspectives. Kongdenfha et al. (2009) documented the creation of Web-based Mashups through the use of spreadsheets. The authors used Mashups to connect users with lesser technical backgrounds. This article's description of a Mashup differed from the web only view proposed by Lopez et al. (2008). Alternatively, Kongdenfha et al. (2009) were attempting to extend the domain beyond web components. We caution against this approach without finding a common collaborative language. Even more disconcerting are the outside domains taking the idea of combined applications and incorporating approach into specialized software.

In addition to the field of IT, other fields of study have started to adopt and harness the power of Mashups. The adoption of the term and design approach indicates an even greater need for the clarification of a shared terminology, scope and application. Mashups and Web 2.0 technologies are beginning to be documented and have taken hold in the sciences (Goble and Stevens, 2008). Bioinformatics has applied the idea of Mashups to combining an individual's health records into a single structure. Cheung at al. (2008) encouraged the health care and life sciences to create Mashups. Since an abundant and diverse range of heath data exists on an individual level, connecting resources together has significant potential to help patients receive the best possible service. Doctors could have not only the patient information in one application, but also a list of possible diagnosis next to a screen containing 3D body image scans. Together combining these resources is the benefit and opportunity Mashup developers seek. The web development approach has diffused into many industries as well as covered the globe.

Web technology has become global but connecting these resources requires Mashups (Schroth and Christ, 2007). Through human intervention, diverse systems can be organized to bring new value and opportunity for users. The possibility for individuality and creativity are leveraged against almost infinite possibilities of Mashup design. Software tools are available to combine multiple sources of web content and services (Wong and Hong, 2007; Serge et al., 2008). Mashup development tools have recently been created to harness both text and dynamic content. MashMaker, offered by Intel, empowers every day users to create their own Mashups with the capability to share the results and design with other people (Ennals et al., 2007). This approach to software design and availability to the masses is shaping the domain. Jackson and Wang (2007) assert that the paradigm for web development has shifted. We propose an ontology as a solution to strengthen and define the application development architecture.

The Mashup community is still evolving through developers, open Mashup creation software and the literature. Participants in Mashup development, research and implementation each have different perspectives on the core components. There is no common understanding of a Mashup. Jackson and Wang (2007) define Mashup as web based application that combines two or more sources to create a synergistic program. In order to be classified as a Mashup, the source of the data or information can come from anywhere, but the results must be displayed on the web. Jackson and Wang's (2007) definition differs from others described in the academic literature.

Restricting Mashups to web design may be severely limiting. Since the original term Mashup has links to music, a clear distinction of the term needs to be made and accepted by academia and practitioners. As part of an ontology, scope can be defined while explaining the tradeoffs. Designing a communication framework does impede the applications being created. The common language of ontology can better facilitate companies to share resources. A few companies are leading Mashup creation. Google, Flickr and Amazon have strongly encouraged the use of their respective API's. These companies have gathered a large share of the Mashup marketplace (Hartman et al., 2008). Without having enough participants, additions to the field can be inhibited. By defining the scope and common language, individuals and other corporations would be able to utilize the current programs and develop new applications.

The combination of applications and data sources creates value for the end user. However, at the same time, this synergistic development approach raises questions over the legality of the final creation (Gangadharan et al., 2008). Gerber (2006) found Mashups to be rife with possible legal ramifications that need to be fully understood by all stakeholders. Mashups combine different software containing unique licensing restrictions. Gangadharan et al. (2008) provided an example of a Mashup between Google Maps and a *birdwatch* service to explain the complications associated with the development approach. The *birdwatch* service requires a user to pay for the software while Google Maps only allows access for noncommercial development. Another example of a legal challenge was the use of screen scraping, extracting information from public available websites, which could violate the host's user agreement. Gangadharan et al. (2008) encouraged developers to review the policies and user agreements of the Mashup components.

Accountability and self-review for Mashups creators is a legal challenge waiting to happen. Zou and Pavlovski (2007) found the current business practice of providing no warranties for the end product to be a short-term approach to handle legal concerns. Since most of the Mashup offerings are free and users accept the software with no explicit guarantee, the legal issues are skirted. However, the growth of Mashups is expanding into pay for service systems would complicate the legal issue. Companies are looking to use Mashups to solve enterprise problems. The issue of accountability of ownership and use becomes an issue when the software generates or supports the creation of profit. Zou and Pavlovski (2007) recommended Mashups start to incorporate accountability checks to address legal concerns. The development of an ontology would facilitate the review of policies and user agreements and help perform accountability checks.

In the preceding paragraphs we have demonstrated that the domain of Mashups have reached a level of maturity. The literature contains ample citations and perspectives. This article's citations cover a wide area of domains, fields, approaches and perspectives. We believe the domain should begin a formalized effort towards establishing common definitions and relationships. Clarification would align multiple points of view and explain alternate approaches. A combined approach by academics and practitioners would strengthen the domain. In order to clarify the terminology and approach to design we recommend the development of an ontology for this domain.

3. BENEFITS AND ONTOLOGY

Multiple approaches, adequate literature, supporting conferences and an active community showcase both the breadth and depth of Mashups. A common language should be encouraged among the field participants to facilitate the effective use of Mashups and support advances in the field. The domain has started to tap resources, ideas and concepts from other peripheral and parent domains. The distinction among terms, relationships and definitions appear to be a barrier to the domain. Ontologies could provide a cohesive structure for the growth. As a reinforcing tool, ontology has the ability to increase communication, collaboration and improve the field of Mashups.

An ontology is a formal conceptualized view of a specific domain (Gruber, 1993; Chandrasekaran et. al., 1999; Noy and McGuinness, 2001). There is no single approach to achieve a domain ontology. A common set of attributes exists for most ontologies. This article adopts the structure components presented by Noy and McGuiness (2001). The largest component of the domain is the class. In the case of this discussion, the class would be Mashups. The class has unique and diverse features and attributes. The class can also have subclasses that are more specific concepts within the parent class. Once the classes and subclasses are identified with their attributes, relationships can be explained among the components. This fine level of granularity provides the domain the opportunity to share information as well as extend it to other ontologies.

Gruber (1993) viewed the lack of common communication as a barrier to knowledge sharing. As web technologies rapidly emerge and spread out further from the core of IT, individuals can be overwhelmed. We propose that when a new technology emerges, people make the choice to ignore or explore. If a choice is made to explore the concept, the academics and practitioners can obtain the most benefit by communicating and referencing similar terms. Without a formalized definition of terms and relationships, sharing information can be difficult. Building upon the domain is made more difficult due to a poor base structure. An accepted ontology can provide the framework and guide the development of the field.

Chandrasekaran et al. (1999), supporters of ontology creation, believed that the ontology design could aid in continuity, collaboration and information sharing. Since ontologies are content theories consisting of objects, properties and relationships within the domain, an ontology can identify the current status and knowledge of the domain. Through the clarification of the subject, the field is more organized and consistent. The organization of the domain makes sharing information easier among the participants. Understanding the terms and relationships of the field encourages contributors to the body of knowledge to work together. The sharing of ontologies helps to improve the domain and communicate with outside or future fields. A stretch goal for any ontology is to extend the subject to a new area or combine with another closely related field.

Another benefit of ontology is capturing the domain. As the literature suggests, the domain of Mashups is being extended and built without a formalized, shared definition. As explained earlier, many authors are contributing to the domain (Wang et al, 2009; Wong and Hong, 2008; Serge et al., 2008; Zang and Rosson, 2008; Jhingran, 2006). Each piece of literature adds to the body of knowledge. The ontology creates a framework for the knowledge. The body of knowledge can continue to evolve as the ontology is updated to reflect the domain's growth and maturity. In the preceding section we provided a detailed discussion to establish that the Mashup community appears ready to start the creation of an ontology.

4. APPROACHES TO ONTOLOGY CREATION

Embley et al. (1999) warned about the rapid expansion of the World Wide Web. The authors found abundant information but few methods to gather information. Their approach over a decade earlier is an initialization of the development of an ontology. Through a standardized terminology, information could be exchanged even over different types of documents. The benefits of an ontology on Mashups would be similar to the benefits of web pages, minimally impacting current applications and strengthening future designs.

The initiators of ontologies are motivated by a problem scenario (Gruninger and Fox, 1995). The problems may come from industry, academia or a combination of the two. The challenges can take the form of ideas, examples and literature that cannot be articulated through a preexisting ontology or a supporting literature. Mashups have a combination of all three. Gruninger and Fox (1995) recommended the examination of the motivation before creating or extending an ontology. Included in this review process is examining the current challenges in the domain and how solutions fit the conceptualization. This part of the process starts the identification of objects identified as a step in Noy and McGuiness' (2001) approach discussed in the following paragraphs.

The main purpose of these initial steps is to frame the ontology in respect to the domain, in this case Mashups. In the preliminary phase, questions testing the problems and solutions will be used to evaluate the ontology creation. During the next stage the terminology is created to show the objects, properties and relationships among the objects. The terms will become the framework for further development. Gruninger and Fox (1995) recommended a round of formal questions that will place further constraints on the ontological model. The questions serve as a formal representation of the created ontology. The last step before acceptance is to test the accepted and established perspectives against both the formal and information questions regarding the created solution. Testing the created ontology requires a robust understanding of the field. During this phase, many different perspectives and challenges related to Mashups would need to be gathered. The task of extrapolating the largest objects down to granular levels of detail will require a comprehensive examination process.

Another approach to ontology development focused on the initial creation as outlined by Noy and McGuinness (2001). The authors encouraged the use of ontology as a tool to share information with members of a domain and provided five steps for initiating the creation process. The first was to share information and understanding among the participants. Next was to create a reusable structure for the knowledge in the field. The third step was to clearly document the terms and relationships while unequivocally declaring assumptions. The fourth step to create an ontology was to separate the knowledge in order to explain the interactions within the domain and with external domains. The final review of the creation of an ontology is a review of the knowledge contents.

Noy and McGuinness (2001) proposed a seven-step approach to ontology creation that we offer as a suggestion to the Mashup community. The approach is object based and requires some understanding of classes, objects, properties and relationships in order to follow the outline. The first step was to define the scope, the stakeholders and what questions need to be answered. Once this step has been completed, the group should consider previous ontologies. A review process would identify completed and incomplete terminology and relationships. We believe Mashups would benefit from reviewing peripheral domain ontologies as well as some of the individual efforts made by the community. If no applicable frameworks can be found, the next step is to identify the terms – specifically the objects being used in the domain. Following the identification of the objects, classes should be created with detailed hierarchical relationships. One of the final steps involves creating and testing the instances against the scope. The domain participants have the final determination if the results of the ontology creation yield results that support and communicate the interpretation of the field.

Holsapple and Joshi (2002) defined five different methods for the creation of an ontology: inspirational, induction, deduction, synthesis, and collaboration. The authors noted that a mixture of one or many of these styles could be used. The inspirational approach rests on the individual and is only limited by his knowledge and imagination in addressing the existing demand. The second method involves a careful review of specific case studies. A template is formed from an individual case and then an attempt is made to identify the similarities and differences. The deductive approach requires gathering general ideas and then refining the ontology through the use of case studies. The fourth way to create an ontology is to synthetically derive the framework. In this approach, the core concepts are gathered from surrounding research. The final approach is collaborating with other individuals. This team effort requires sharing knowledge, thoughts, and perspectives in an effort to produce a new ontology. If there is successful collaboration, this approach to ontology has a better likelihood of being accepted. Regardless of the initiator, a thorough ontology requires a strong base of current research, cases and contributions to the field. No two ontologies are the same within a subject (Noy and McGuiness, 2001). Following the recommendations of Holsapple and Joshi (2002) there are several different ways to construct and achieve the benefits of the model.

The literature review, documents that Mashups have progressed through the initial methods of ontology development (Schroth and Christ, 2007; Zang and Rosson, 2008; Kongdenfha, 2009; Ogrinz, 2009). The first, inspiration, has come from different individuals sharing perspectives on Mashups. Defining Mashups and applying the concepts has been, from our perspective, an individual process. The term Mashup varies within the literature. Even the term web 2.0 has been questioned. We believe these are indicators of an evolving and maturing domain. In addition, this type of dialog and sharing of information helps encourage particular segments of the community to work individually and in small groups; our hypothesis is that the field is now in the midst of the induction, deduction and synthesis methods as defined by Holsapple and Joshi (2004). The collaborative approach seems to be the next logical and necessary step in the evolution of Mashups. During this final approach, the contributor's ideas, perspectives and problems are gathered together for review.

Ontology can be used to analyze the pieces of a domain that aid in the understanding and defining of the subject's context (Holsapple and Joshi, 2004). The authors offered a four-phase approach to design of ontology. The first step is preparation, which establishes the guidelines for development. To clarify the components of the domain, included and excluded pieces are declared during this phase. The next part of the creation process is anchoring. During this stage, the approach to ontology creation occurs through multiple iterations. The third step, collaboration, aids in creating a shared definition through the assistance of multiple perspectives. Finally, once a mutual understanding of the ontology is achieved, the results are applied to current domain challenges. Through these four phases, an ontology can be created that supports and enhances the context of the domain.

We recommend the collaborative approach as proposed by Holsapple and Joshi (2002) for the creation of an ontology. This approach is based on the principles of the Delphi methodology. The Delphi methodology serves as the basis for approaching an ontological framework. Linstone and Turoff (1975) define the Delphi approach as "a method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem" (Linstone and Turoff, 1975, pg. 5). Bontas and Mochol (2005) group the Delphi method together with expert judgment. The authors describe the Delphi approach as a structured process collaboration of knowledgeable human participants. The Delphi approach, including knowledge, structure and active participation, is remarkably similar to the conceptual definition of ontology. The chief objective of an ontology is to collect, filter, analyze, classify, and organize information effectively with the support of the domain experts.

Holsapple and Joshi (2002) provided a review of ontology approaches. Gruninger and Fox (1995) and Noy and McGuinness (2001) outlined approaches to ontology creation. These three perspectives when compared to the progress of Mashups highlight the opportunities available with an ontology creation in the Mashup domain. The Mashup literature has already started gathering terminology and providing a rough outline of relationships. The questions that need to be answered by an ontology have been documented in this article as well as the supporting publications. The goal of the ontology is to strengthen the domain by addressing the current and future challenges to the Mashup domain.

5. CONCLUSION

In this article we have presented information and background to support Mashups as a maturing software design approach. In order to facilitate future growth including adoption by fields outside of IT, an ontology would be beneficial. As a tool that supports communication, clarification, and collaboration, ontologies appear to be a viable solution. We recommend engaging in a joint ontological discussion. Acknowledging the situation is the first step to solving the challenge. Conferences, publications and group discussions should focus on clarification of terminology. The objects, including their properties, can be identified once the language has been confirmed. Relationships among the terms can be identified through discussions with contributors. Only with a concerted effort, will Mashups be able to expand efficiently.

This paper provides a detailed review of the history of Mashups including the numerous different approaches to Mashup development. Through clipping, APIs, excel documents and data sources, Mashups combine a diverse array of information. As tools such as Intel's Mash Maker and Yahoo Pipes offer users of all skills levels the ability to create Mashups, defining the domain becomes a point of contention. The multitude of perspectives of the domain, require an ontology to improve communication. Though we briefly covered ontology design approaches our recommendation, of using the collaborative approach, is based upon well-supported literature. The collaborative approach selected for an ontology design builds upon the current literature, a substantial research foundation, and a general consensus of domain experts..

We hope through the discussion of this article, we encourage feedback from members of the Mashup community. However, without some form of communication and collaboration tool, the domain will begin to stratify and weaken over time. The outlined ontology creation approaches should provide guidance to members of the Mashup community. The chief objective of an wontology is to collect, filter, analyze, classify, and organize information effectively with the support of the domain experts. Any step towards a collaborative ontology will yield positive benefits and aid in the clarification of the domain. An ontology would reduce the possibility of impact to current applications while strengthening the Mashup domain.

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INTERNATIONAL NEGOTIATIONS: EFFICACY AND EFFICIENCY WITHIN THE PROCESS

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ABSTRACT

International negotiation is a new field for internationalists. Although one may think that it is basic knowledge to be developed in academia and in the professional practices of IR people, negotiation is still an incipient field of study. This article's scope was to offer a possible approach to negotiation on a different perspective than the ones already present in literature. We present some steps for the negotiator to follow in order to be efficient and have the results to his/her practices produce the desired effects. In international negotiations, trust must be built beyond cultural barriers, so it is always advisable for the negotiator to follow rules, but never to forget his/her sentiments and instincts. This is how human relations – and therefore negotiations too – develop.

Keywords: *international negotiation, efficiency, efficacy, negotiation process*

1. INTRODUCTION

In order to discuss efficacy and efficiency within the negotiation process, it is relevant to remember some basics about the concept of negotiation, which we developed in a previous article. An International Negotiation is an interactive process serving as an instrument to prevent or end conflicts of interest, as well as to solve controversy. It may also serve as a means to achieve common objectives or agreements among individuals or groups (parties) in relation to a specific object, material or immaterial, within a framework of pre-established rules, known and accepted by the parties involved. And it happens in the international arena (MANZUR, 2008).

Having in mind what an international negotiation is, let us begin to discuss important requisites to build the international negotiator's efficiency and, as a probable outcome, the negotiation's efficacy. All the ideas will be developed with a focus on the international area, even though some general assumptions on negotiation will generally previously occur.

2. LITERATURE REVIEW, THEORY AND CONCEPTUALIZATION

Dudley Weeks (1992) defends the idea that some steps are necessary in order to achieve the situation above – effective negotiation made by an efficient negotiator: a) Create an Effective Atmosphere; b) Clarify Perceptions; c)Focus on Individual and Shared Needs; d) Build Shared Positive Power; e) Look to the Future, then Learn from the Past; f) Generate Options; g) Develop "Doables" (feasible criteria and measures); h) Make Mutual Benefit Agreements. In this article, we are going to show different ideas to reach the same objectives.

Knowing what to do

The most important *first step* for a negotiator to be successful is to answer the following question: What is the negotiation about?

For that matter, it is relevant to subdivide the question above into many new ones: is this a conflict? Do the parties have common or conflicting objectives? Is the object of the negotiation material or immaterial, divisible or indivisible? Are the parties "friends or foes"? How many stages will the negotiation have – is it a simple or a complex one?

As the negotiator answers all these questions, they will be able to have a larger picture of the process before it starts. That is adequate preparation.
When it comes to International Negotiations, this preparation includes knowing *how to do your thing*. If you are dealing with a party of a completely different culture, for instance, beware of the possibilities of cultural misunderstandings, of offending gestures, as well as of jeopardizing the entire process simply

because of lack of knowledge from your part. Some details in this area will be explored later in this article (MANZUR, 2008).

Knowing the purposes: why to negotiate?

Many negotiators begin a negotiation without having the real picture – sometimes because of their own incompetence, other times because they are caught up in the middle of the process and do not have the chance to prepare well for it. Nevertheless, if the first *Knowing what to do* step is not fulfilled, the negotiator must immediately search for *the purposes* of that specific negotiation. In this case, it is mandatory to answer the following question: why am I negotiating this specific object? Why was negotiation the way to resolve this issue? Was negotiation our only option? What are my goals in this process? Am I directly interested in it, or am I negotiating it for someone else?

Answering these questions is important for the negotiator to know how far he or she will be able to go. This simple measure will avoid many problems, especially in the event of an international negotiation. If the parties, the object, the result, or the legal framework indicate that one specific negotiating process is international, the negotiator must be aware of all the conditionalities on every party, and take into consideration the cultural aspects when trying to answer also why is the other part negotiating. Some cultures are more pragmatic than others, some are more direct; some cultures see negotiation as a walking bridge, while others see it as a fast lane (MANZUR, 2008). The efficient negotiator must take all this into consideration, and more. Let us now establish other more detailed steps encompassed in a good preparation.

Clarity and objectivity

A negotiator is sometimes led by literature to have a direct approach in any situation. This will save time and money; however, one must be careful to behave directly, but not rudely. Clarity, then, in this case, means that your words will be understood as you want them to be. Otherwise stated, especially in some international negotiations, negotiators will not be able to go straight to the point in the beginning of conversations. For the Japanese, for instance, this might be considered a sign of impoliteness, or at least of lack of preparation.

To be clear, you need to be objective, state what you mean with no margins for doubt, ask if what you said is what the other parties understood, making sure the message perfectly reaches the recipient. For that to happen, the negotiator must know how to express him or herself very well, in his/her native language or any other necessary to the process; it is also very important to understand the other party's native language, and if it is not possible, a third language must be chosen which all parties speak and understand well. A mandatory step beyond language is the knowledge of the other party's culture, as mentioned above. In international negotiations, culture is a key element, so parties must avoid at all costs the occurrence of cross-cultural miscommunication (MANZUR, 2008).

Being aware of Cultural Intelligence is also pertinent. According to Thomas and Inkson, "the need to interact with people who are culturally different has never been greater and will only increase in the future". Cultural intelligence is the ability to interact effectively with individuals and groups of a different culture. It encompasses the Intelligence Quotient and Emotional Intelligence elements, but includes the ability to learn how to perform in a multicultural environment, which takes time, observance and openness to intercultural situations (THOMAS & INKSON, 2004, pp. vii and viii).

Also apropos is the knowledge of Geert Hofstede's research on cultural differences. For those working the international area, it is necessary, as stated many times previously in this article, to acknowledge how different people in other cultures behave. Even though one might assume that 'deep inside' all people are the same, each individual is different from other individuals; if a comparison is made on the behavior of two individuals belonging to different cultures, the differences will possibly be even bigger. If a negotiator goes into another country and makes decisions based on how he or she decides in their own home country, the chances are some very flaw decisions will be made (HOFSTEDE,1991). Based on these assumptions, Hofstede developed research whose results help negotiators be more effective when transacting with people from different countries.

One example of cultural differences in business is between the Latin American countries and the United States. Latin Americans deal with time in a more easygoing way than US citizens do. Latin Americans may be unpunctual more frequently than Americans, even though generalizations are never welcome. For a US-born negotiator, time is money, whereas for a Latin American one time is just something to be used in your own favor. Because of this difference in perspective over something as ever-present as time, a negotiation involving Latin Americans and US citizens might need adjustments on both parts. And in this case, the perceptions are not so distant from one another.

Let us think of another example: in many Western countries, the objective of a negotiation is to work towards mutual understanding and agreement, and negotiators shake hands when that agreement is reached. Shaking hands is, thus, a cultural expression to signify the end of negotiations and the start of business-making, or working together.

In many Middle Eastern countries, on the other hand, shaking hands does not mean an end, but rather the beginning of serious negotiations. When negotiators shake hands, in this case, the deal is not yet complete, but just beginning.

It is not difficult to imagine the communication problems that may be caused when each party in a negotiation is operating under opposing or very distant rules or conventions.

Domain of Information

In order for a negotiator to build efficient argumentation, they need to follow some steps and have a thorough domain of the necessary information. It is the "Ranasprus" rule: Research, analysis, assimilation, processing, using –building an argumentation that will result in efficacy (MANZUR, 2008).
With the enormous amount of information available nowadays on the internet, the first step is not a complicated one. A good negotiator must use tools such as newspapers, official documents, literature, and any kind of means of communication which can bring information on the subject of the negotiation, on the other parties, on the circumstances in which the negotiation is being held, as well as on the object, and all possible characteristics of the process.

After doing the initial research, it is important to analyze it. How useful is that information? Which information is useful, among the loads of pieces collected? Can the useful information be unclassified? How far can one go with this piece of information? All these questions must be answered before going to the next level.

Then, it is important to assimilate the analyzed data. How can it be used? How to apply all the analyzed knowledge? Where and when to use it? Where and when not to use it at all? Is the information really "digested", or does the negotiator need more time to? How far can I go in this negotiation? Do I have a mandate? Am I a plenipotentiary? Or do I have a limited range of actions? When the negotiator has the answer to the previous questions, it is time to process the information.

Processing involves building scenarios, establishing possibilities to use the data previously researched, analyzed and assimilated. It means elaborating over it – making it clear how to use it.

Finally, using the information, then, means applying all that was elaborated before, in the scenarios and situations previously thought of. Using is implementing, building up argumentation on solid ground. Once the negotiator follows the Ranasprus rule, chances of making significant mistakes are little.

Strategic approach

Even when negotiators do not consider a specific negotiation as a battle, they have to be prepared to establish scenarios both for the use of information and for the possible results of the process. In this stage, it is often appropriate to think of all the potentialities of the process – they may range from total loss to total win. Therefore, the negotiator must have in mind all possible arguments to all possible results, and to achieve this level, he or she must be aware of all variables and conditions in the process, and think beyond them. The efficient negotiator thinks of maybe losing the battle, but winning the war at the end.

In the international scene, negotiations tend to take longer, especially due to all elements involved – perceptions of time, commitment, possibilities of cultural misunderstandings, among others. The international negotiator, thus, must take his or her strategist abilities to the extreme (MANZUR, 2008).

Adequate posture
The negotiator, and with stronger emphasis, the international negotiator, is someone aware of his or her physical and psychological characteristics, as well as those of all parties involved in the negotiating process, in order to know exactly how to behave, address the parties and dress to the circumstances. Psychologically speaking, an individual may be relaxed or tense; fast or slow; aloof or attentive to detail; humble or arrogant; serious or humorous; in physical terms, he or she can be elegant or sloppy; energetic or slow; attractive or dull; simple or sophisticated; sober or flashy. These are some examples of how negotiators can describe themselves and others. It is advisable that the negotiator studies both the psychological and physical characteristics they possess, and also how to describe the other parties, so that they find the best attitudes and reactions for the best moment during the process. One reminder: the efficient negotiator must always beware of prejudice. “Classifying” himself and the other parties does not mean labeling them forever. That is why it is important to study all the participants. Even so, during the process, some initial preconceptions and assumptions may change and it is important to be open to that. As we get to know people better, our opinion about them may not stay the same – and neither should our attitudes towards them. A negotiator, as an individual, might have some kind of personal or cultural prejudice, especially when the other parties are people from different nationalities; stereotypes may be present, but he or she should never let prejudice bias their actions. The efficient negotiator is open to diversity.

General knowledge
Beyond specific knowledge on the basics of efficient negotiations, it is important for the negotiator to frequently update him/herself. General knowledge might “save” a negotiator at times. Let us imagine, for example, that one individual from Brazil and another from Argentina are negotiating. A topic to be avoided is soccer, since Brazil is five times the world champion, Argentina is three; Brazil has Pelé and Argentina has Maradona. But they always dispute which team is the best in the Americas. However, if previous conversations are about music, Argentines are proud of their tango maybe as much as Brazilians are proud of Bossa Nova. Knowing this might loosen up ties in a negotiation.

Of course, general knowledge goes beyond sports and music: the range is enormous, including literature, gastronomy, geography (geopolitics, natural resources), history, and many other “encyclopedic” pieces of knowledge that will be good grounds for conversation before negotiations start, and even during negotiations when it is necessary to relax a little from tense moments.

Creativity
It often occurs that a surprise element arises during negotiation processes. The efficient negotiator must then always have an ace up their sleeve, meaning that not all premises should be presented at the same time. There may be turns in the process, so it is important for the negotiator to have possibilities open. Sometimes, the negotiator is able to perform as an actor. They need to control their emotions, showing them when necessary, hiding them when they are not welcome. Being creative means all this and more: it indeed implies having the ability to create situations, events, arguments, solutions, definitions.

But if all this leads one to think of creativity as a mere result of inspiration, let us remember that before sitting at the table to negotiate, the individual must have followed all the steps above. Thomas A. Edison expressed this in other words: “Genius is one percent inspiration and ninety-nine percent perspiration”. He also said that “There is far more opportunity than there is ability”. A good negotiator is an opportunity seeker and these quotes are definitely good mottos for any negotiator belonging to any culture.

3. CONCLUSION

In conclusion, international negotiation is a new field for internationalists. Although one may think that it is basic knowledge to be developed in academia and in the professional practices of IR people, negotiation is still an incipient field of study. This article's scope was to offer a possible approach to negotiation on a different perspective than the ones already present in literature. Some steps were presented for the negotiator to follow in order to be efficient and have the results to his/her practices produce the desired effects.

When a negotiator knows what to do, is aware of the purposes of the process, expresses him/herself clearly and objectively, has a comprehensive domain of information, a strategic approach to the process, adequate posture, develops general knowledge and creativity, he/she is most likely to be successful. Of course, behaving ethically and honestly is also mandatory, since no hard work will pay off if in the end the other parties find out that one of them is not trustworthy. In international negotiations, trust must be built beyond cultural barriers, so it is always advisable for the negotiator to follow rules, but never to forget his/her sentiments and instincts. This is how human relations – and therefore negotiations too – develop.

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THE INFLUENCE OF EQUITY SENSITIVITY ON JOB SATISFACTION AND ORGANIZATIONAL COMMITMENT

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ABSTRACT

Individual difference variables in the field of employee motivation help to explain under what circumstances individuals will be motivated and how this motivation translates into differences in employee attitudes. Equity sensitivity is one such theory of employee motivation. The present study investigates the relationship between job satisfaction and organizational commitment, and tests whether these employee attitudes vary as a function of equity sensitivity category. Survey data from 104 working parents was analyzed. Results indicated a moderately strong correlation between job satisfaction and organizational commitment. In addition, ANOVA analyses revealed that benevolent individuals displayed higher levels of job satisfaction and organizational commitment than did entitled individuals. Application of these results for future practice and research is also discussed.

Keywords: *Equity Sensitivity; Job Satisfaction; Affective Commitment, Employee Motivation*

1. INTRODUCTION

What motivates our workforce? Are all employees equally motivated by the prospect of getting as much from the organization as they put into it, or would such an environment result in reduced satisfaction with and commitment to the organization for some employees? Why does the same action taken by an employer seem to induce such varied reactions from its employees? Understanding individual differences in employee motivation is a complex task, but it is essential to managing a diverse workforce.

Equity sensitivity is a construct that proposes individual differences in response to input-output ratios of effort and reward in the workforce (Huseman, Hatfield, & Miles, 1987). This construct has been a reoccurring trend examined in work motivation research, largely due to the fact that perceptions of equity have an impact on various workplace attitudes, such as organizational commitment (King & Miles, 1994) and job satisfaction (e.g.: O'Neill & Mone, 1998; Shore, Sy, & Strauss, 2006). Antecedents of the underlying behaviors that lead to organizational commitment and job satisfaction are of interest to organizations because of the costs associated with turnover and employee dissatisfaction. Turnover has financial consequences for organizations, such as the costs associated with recruitment, training, and low productivity during the initial time at a new job. Research also demonstrates that employee satisfaction can influence organizational effectiveness through its relationship to customer satisfaction (Koys, 2001). Thus, it is beneficial for organizations to take into account the relationship between employee motivation and employee attitudes when analyzing the best route to managing an effective workforce.

2. LITERATURE REVIEW AND HYPOTHESES

If one were to observe a group of employees at work, they would likely detect that employees display an ever-present vigilance about how their situation compares to that of fellow co-workers. As individuals and as employees, we tend to be concerned with outcomes, which are our perceptions of how much we get from an organization, in comparison to inputs, or how much we feel we give to an organization (Adams, 1963; Shore, 2004). Adams' equity theory (1963, 1965) was based on principles of Festinger's social comparison and cognitive dissonance theories (Adams, 1963) and Vroom's expectancy theory (Pritchard, Dunnette, & Jorgenson, 1972). According to equity theory, whether an individual feels given circumstances are equitable is determined by weighing the ratio of perceived inputs to perceived outcomes of the target individual (self) against a comparison other. Adams' original theory suggested that feelings of inequity result both from being under- and from being over-rewarded. Consistent with cognitive dissonance theory, this inequity was proposed to induce feelings of stress, which would subsequently motivate an individual to reduce that stress. A major drawback of equity theory, however, is that it does not account for individual differences in the perception of inputs and outputs, which influences how an individual reacts to a given situation (Allen & White, 2002).

In order to address the issue of individual differences in Equity Theory, Huseman and colleagues (1985; 1987) proposed the equity sensitivity construct as a revision of Adams' (1965) original theory. Equity sensitivity theory posits that although the patterns of an individual's reaction to equity or inequity are generally stable (i.e. they will take action to reduce distress), individuals may not react the same to a given situation because they perceive inputs and outcomes differently than others in the same situation (Bing, Davison, Garner, Ammeter, & Novicevic, 2009; Huseman et al., 1987). Instead of viewing equity as a general endpoint that everyone seeks, equity sensitivity was conceptualized as an individual difference variable. Huseman and colleagues (1987) suggested that while some individuals ("sensitives") do prefer their outcome to input ratio to be equivalent to that of their co-workers, other individuals ("entitleds") prefer their own ratios to be greater than their co-workers, and some individuals ("benevolents") prefer the ratio to be less than their co-workers. Research has supported that these distinct categories of equity sensitivity do exist, as evidenced by different reactions to inequitable situations (Allen & White, 2002; Huseman, et al., 1985; King, Miles, & Day, 1993; Miles, Hatfield, & Huseman, 1989; Shore, 2004).

Benevolent individuals are often viewed as possessing altruistic tendencies and are characterized by a greater tolerance for under-reward (Huseman et al., 1987). Research has demonstrated that benevolents can tolerate lower outcome to input ratios (Miles, et al., 1989), express more job satisfaction in situations of under-reward than either sensitives or entitleds (Huseman, et al., 1985; King, et al., 1993), and are more willing to work harder for the same or less pay than either entitleds or equity sensitives (Shore et al., 2006). According to the original theory, anxiety occurs for benevolents when their outcome ratios are equal to or greater in comparison to others (Huseman et al., 1987); however, research has also demonstrated that benevolents have higher job satisfaction regardless of how equitable the situation is (King, et al., 1993; Shore, 2004).

According to Equity Sensitivity Theory, it is predicted that equity sensitive individuals have the same characteristics described of individuals in Adams' original equity theory. They prefer situations where their outcomes to input ratio is equal to that of their co-workers and feel distressed when this ratio is unbalanced (Huseman et al, 1987). Research examining the pattern of actual behavior for these individuals has been mixed. For example, Miles and associates (1989) found that there was no significant difference in job satisfaction between entitleds and sensitives when over-rewarded, but Huseman and associates (1985) found that entitleds had more job satisfaction in situations of over-reward than did sensitives. More research is needed to determine the most likely pattern for those individuals categorized as sensitives.

The last equity sensitivity category proposed by Huseman and colleagues (1987) is comprised of the entitled individuals, who are very sensitive to situations of under-reward and prefer to get more from an organization than they give. Research has demonstrated that entitleds express less job satisfaction than both benevolents and sensitives when conditions are perceived as equitable (Huseman et al., 1985). In addition, entitled individuals are more likely to respond to perceptions of underpayment by working less or transferring (Allen & White, 2002). However, the theorized patterns for entitleds appear to be more consistent when they are compared to benevolents than when compared to sensitives. For example, Shore (2004) found that entitleds did not show a pattern of lower job satisfaction or a higher intent to leave than sensitives.

As demonstrated by the research studies above, two important outcomes that appear to be related to equity sensitivity are job satisfaction and organizational commitment. Hackman and Oldham (1975) described general job satisfaction as being an overall feeling of contentment with work. Job satisfaction has increasingly come under the microscope, as more organizations feel the need to understand what makes employees happy within their job and what can be done to maximize this satisfaction to increase productivity.

Another important workplace attitude is affective commitment, which is a type of commitment to an organization characterized by having strong emotional ties to the organization (Allen & Meyer, 1990). Committed employees identify more strongly with the organization, are more involved in work activities, and are more likely to develop personal goals in line with organizational goals (Rhoades, Eisenberger, & Armeli, 2001). Therefore, uncovering the behaviors and antecedents that lead to such a sense of loyalty is an important goal of many organizations.

Although research has highlighted the importance of understanding the relationship between equity sensitivity and employee attitudes, research in this area is still limited and the findings are somewhat contradictory. The current research seeks to provide support for a baseline difference in job satisfaction and organizational commitment as a function of equity sensitivity category. Based on previous research, the following hypotheses were tested:

Hypothesis 1: There will be a positive linear relationship between job satisfaction and affective commitment. Specifically, the more satisfied individuals are with their job, the more affective commitment they will feel toward the organization.

Hypothesis 2: Equity sensitivity category will predict job satisfaction, such that benevolents will express more satisfaction with their jobs than entitleds.

Hypothesis 3: Equity sensitivity category will predict affective commitment, such that benevolents will express more affective commitment to their jobs than entitleds.

3. METHODS

3.1 Participants

Completed surveys were returned from 127 individuals. Only participants who correctly completed the Equity Sensitivity Instrument (ESI; King and Miles, 1994) were included in data analysis (see section on materials below for the process of excluding participants). Included participants ranged in age from 18-57 years old, with a mean age of 34.13 (SD = 6.86). Seventy-eight (74.3%) of these participants were female, and twenty-five (23.8%) were male. Two participants (1.9%) did not indicate their gender. The majority of the participants had received degrees of higher-education, with 73.08% having earned a bachelor’s degree or higher, and most were full-time workers (78.1%); the remaining 21.9% worked part-time.

3.2 Procedure

Data was collected via either a paper or an electronic survey from working parents at a daycare center, from working parents in an undergraduate participant pool, and through organizations where the researchers had connections. All subjects were working parents. Analyses determined that the subjects did not differ on the three measures according to the data source.

3.3 Measures

Three scales were used to investigate the proposed research questions. In order to evaluate the participants’ organizational commitment, the eight item affective commitment sub-scale from Allen and Meyer’s (1990) organizational commitment scale was used. This scale measures a participant’s affective commitment based on the extent to which he or she agrees or disagrees with a particular statement. For example, participants are asked to rate a statement such as “This company is extremely vital to me” on a 7-point scale ranging from 1, which represents “strongly agree” to 7, which represents “strongly disagree.” The reliability of this scale is demonstrated by the acceptable inter-item consistency alpha coefficient of .842.

Job satisfaction was measured using a three-item global satisfaction measure (Hackman and Oldham, 1975). This measure asks participants to respond to how satisfied they are with their job and the kind of work they perform, and how often they consider quitting (using a 7-point likert-type scale). This measure has been demonstrated reliable, with an internal consistency alpha coefficient of .833.

Finally, the participants' level of equity sensitivity was measured using the five-item Equity Sensitivity Instrument (ESI; King and Miles, 1994). In past studies, this scale has yielded alpha coefficients of .77 to .88 (King and Miles, 1994) and a test-retest reliability of .80 (Miles, et al., 1989). In this measure, participants are asked to divide ten points between two polarized choices for a given statement. One choice represents a self-focused responses and the second represents an other-focused response. For example, participants are asked to divide ten points between whether it is more important for them to give to (other-focused) or get from (self-focused) their organization. The participant is asked to assign the greater amount of points to the choice that has a greater relation to their own views. Correct completion of the ESI was determined by summing all responses to the five questions included in the scale; if a participants' score did not add up to 50, they were excluded from data analysis. As described in the analysis, equity sensitivity categories (benevolents, sensitives, and entitleds) were determined using the method outlined by King and Miles (1994).

4. RESULTS

Prior to hypothesis testing, equity sensitivity data was analyzed in order to categorize participants into three equity sensitivity categories: benevolents, sensitives, and entitleds. Equity sensitivity categories were determined by summing scores from each other-focused statement (i.e. "It would be more important for me to *give* to the organization") to determine the participant's benevolent score (Huseman et al., 1985). The mean benevolent score was 25.88 and the standard deviation was 5.93. Participants who scored within ½ a standard deviation of the mean were categorized as equity sensitives, those who scored more than ½ a standard deviation below the mean were categorized as entitleds, and those who scored more than ½ a standard deviation above the mean were categorized as benevolents (see Table 1 for a breakdown of the sample sizes and ranges for each of these categories).

TABLE 1. RANGES AND SAMPLE SIZES FOR EQUITY SENSITIVITY CATEGORIES

Category	Range	*n*
Benevolents	0-22.91	26
Sensitives	22.92-28.84	46
Entitleds	28.85-50	32

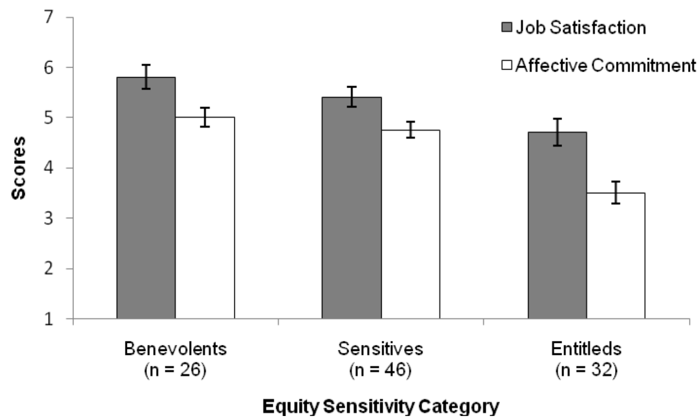
A pearson correlational analysis was conducted to test the first hypothesis, which specified the relationship between job satisfaction and affective commitment. As predicted, there was a positive linear relationship between job satisfaction and affective commitment ($r(103) = .686$, $p < .01$); specifically, results indicated that the more satisfied individuals are with their job the more affective commitment they will feel toward the organization.

To test the second hypothesis, a one-way analysis of variance (ANOVA) was conducted to evaluate the relationship between equity sensitivity and job satisfaction. The results of this test were significant, $F(2, 101) = 4.86$, $p < .001$. The strength of the relationship between equity sensitivity and job satisfaction was moderate ($\eta^2 = .09$). As hypothesized, job satisfaction for benevolent individuals ($M = 5.81$, $SD = 1.24$) was significantly higher than for entitleds ($M = 4.71$, $SD = 1.59$). Job satisfaction of equity sensitive individuals was not significantly different from either of the other equity sensitivity categories.

A second ANOVA was conducted to test the relationship between equity sensitivity and affective commitment. The results of this test were also significant, $F(2, 101) = 15.69$, $p < .001$, and the strength of this relationship was strong ($\eta^2 = .24$). As predicted by hypothesis 3, affective commitment was weaker for entitled individuals ($M = 3.51$, $SD = .85$) than for benevolent individuals ($M = 5.01$, $SD = 1.13$) or equity sensitive individuals ($M = 4.76$, $SD = 1.15$). There was no significant difference between equity sensitive individuals and benevolent individuals on affective commitment scores.

Figure 1 illustrates the relationship between the equity sensitivity categories and job satisfaction and organizational commitment.

FIGURE 1. JOB SATISFACTION AND AFFECTIVE COMMITMENT AS A FUNCTION OF EQUITY SENSITIVITY CATEGORY



Note. Both job satisfaction and affective commitment were scored using 7-point Likert scales.

5. DISCUSSION

The current study investigated the relationship between equity sensitivity, as it relates to job satisfaction and organizational commitment. As predicted, job satisfaction was positively related to affective organizational commitment. Consistent with past research (i.e. O'Neill & Mone, 1998), this research demonstrated that the more satisfied an individual feels with his or her work situation, the stronger the emotional connection they feel towards their job. Although this study did not attempt to determine the causal direction of this relationship, current research suggests that this relationship is reciprocally based (Huang & Hsiao, 2007).

The main analyses of this study investigated the baseline levels of job satisfaction and organizational commitment as a function of equity sensitivity category. As predicted, there was a significant difference in levels of both job satisfaction and organizational commitment between entitled and benevolent individuals. Benevolent individuals expressed more contentment with their jobs and were more emotionally connected to them, as compared to entitled individuals. This is consistent with past research. Benevolent individuals have demonstrated higher levels of job satisfaction regardless of whether they were presented with a situation of equity or inequity (King, et al., 1993; Shore, 2004). As suggested by Miles and associates (1989), this trend is important for organizations to take into account when recruiting and selecting new employees. Selecting employees with higher baseline levels of benevolent characteristics may help to increase overall job satisfaction of an organization's workforce. Since employee satisfaction has been linked to important organizational goals, such as having high levels of customer satisfaction (Koys, 2001), it is beneficial for organizations to focus on keeping employee morale at a high level.

The lower levels of job satisfaction and affective commitment associated with entitled individuals are also important for organizations to consider when managing their workforce. Recent research has demonstrated a trend of decreased tolerance by *all* employees to situations of under-reward (Shore, 2004). Shore suggests that values have likely changed considerably since the original conceptualization of equity theory and that a greater number of individuals might be looking to get more from their organizations than they give. Since the ESI score reflects the level of benevolent responses, the mean ESI score in this study does appear to demonstrate such a trend. Comparing the mean ESI score in this study (25.88) to those presented in the review of the ESI scale by King and Miles (1994) reveals that

25.88 is lower than any of the 12 samples reviewed in that study. Therefore, participants in the current study displayed lower levels of benevolent characteristics than participants in those 12 samples. It seems as if the workforce is becoming more "entitled" in general, which may make job satisfaction and perceived support from the organization more closely related to factors such as job performance and citizenship behavior. Akan and associates (2009) found a relationship between equity sensitivity and team citizenship behavior. Future research should further investigate this relationship.

The varied ESI scores also demonstrate the need to investigate other methods for measuring equity sensitivity. Although the ESI is considered more psychometrically sound than the Equity Preference Questionnaire (EPQ), because individuals are put in categories based on standard deviations from the mean categorization, the respective equity sensitivity categories are dependent upon the makeup of the specific sample in a study (Foote & Harmon, 2006). Two potential revisions have been suggested by researchers. Foote and Harmon (2006) suggested creating a measure where participants distribute points amongst the three equity sensitive categories instead of just benevolent & entitled statements, thus allowing researchers to create a score for each category to determine which is highest. Other researchers suggest treating equity sensitivity as a multidimensional instead of a unidimensional construct (Bing et al., 2009; Davidson & Bing, 2008; Taylor, Kluemper, & Sauley, 2009). To measure such a variable, they suggest converting the questions from original ESI into a Likert-scale. Using such revised measures will allow for more meaningful comparisons between studies.

One shortcoming of this research is that the data were collected from three different data sources. While analyses did not find differences between the sources on the three measured variables, it could be that the different sources affected the results in more subtle ways. In addition, participants in this research were all parents so this research cannot be generalized to all working individuals. It is likely that parents may differ from non-parents in their relationships between equity sensitivity and organizational commitment and job satisfaction; for instance, working parents are often very short on time. It could be that they cannot afford to be "committed" to an organization that does not give equitable outputs for their inputs. Future research should also look at non-parents and compare differences between the two groups.

Although the relationship between satisfaction and commitment and motivation has been extensively investigated over the past 40 years, the individual difference variable introduced in the concept of equity theory is less researched and findings have been mixed. Our research, though it has shortcomings, supports the hypothesis that job satisfaction and organizational commitment levels differ according to sensitivity to motivation. It also points to the possibility that more of the workforce is becoming entitled with regard to tolerating under-reward situations, as compared to other employees taking part in past research that employed the same scales. Further research needs to be conducted, taking into account recent advances in methodology, in order to develop a more comprehensive understanding of the nature of these variables and to look more closely at the possible relationships between individual difference in equity and other organizational outcomes such as citizenship behavior, performance and justice.

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AN EXAMINATION OF THE SOCIAL, ETHICAL, AND POLITICAL IMPACT OF DIGITAL DIVIDE

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ABSTRACT

Information tools, such as the personal computer and the Internet, are increasingly critical to economic success and personal advancement. Recent studies find that more people than ever have access to cell phones, computers, and the Internet. At the same time, however, National Telecommunications and Information Administration (NTIA) has found that there is still a significant "digital divide" separating American information "haves" and "have nots." Indeed, in many instances, the digital divide has widened in recent years in the U.S. and worldwide.

The good news is that people are more connected than ever before. Access to computers and the Internet has soared for people in all demographic groups, geographic locations and many countries. Accompanying this good news, however, is the persistence of the digital divide between the information rich (such as Whites, Asians/Pacific Islanders, those with higher incomes, those more educated, and dual-parent households) and the information poor (such as those who are younger, those with lower incomes and education levels, certain minorities, and those in rural areas or central cities). This paper will examine major factors contributing to digital divide and their current and future impacts.

Keywords: *Digital Divide, Impact of Digital Divide, Social, and Political Factors of Digital Divide*

1. INTRODUCTION

The digital divide is the chasm separating the haves and have-nots in information society. On one side are people who can afford or who have access to computers, a high-speed broadband connection and the plethora of online services. On the other side of the equation are people who cannot afford the technology, cannot get broadband access because of their location, or who have learning or cultural limitations to using the technology (Glaser, 2007). The term digital divide is a social phenomenon that emerged in the latter half of the 1990s after the Internet came into the public domain and the World Wide Web exploded into history's largest depository of human knowledge. The problem of the digital divide assumed iconic status between 1995 and 2000 and requires appropriate policies and initiatives to address this inequality (Servon, 2002).

The extent and the nature of this divide depend on the type of access defined. If we consider the possession of computers and other technological devices then this gap, because of saturation, is likely to close in the near future. However, recent research reveals that difference in the knowledge, skills and usage is likely to increase (Horrigan, 2009).

There are constant heated debates surrounding the idea of “digital divide” and if there really is one. Much of this discussion is politically charged. The major discussion surrounding a digital divide is the idea of access. According to the Digital Divide Network, there are four successive types of access obstacles. They include: 1) lack of experience – caused by lack of interest, computer anxiety, and unwillingness to try new technology, 2) lack of hardware and/or software – no material access, 3) lack of skills – caused by insufficient user-friendliness and inadequate education or social support, and 4) lack of usage – lack of opportunities to develop skills. Access problems of digital technology gradually shift from the first two to the last two (Dijk, 2003).

There are many digital divides: Rural and urban; poor and rich, African-American and White; old and young; disabled and able; developing nation and developed nation. Statistics indicate that barriers posed by poverty do translate to reduce access. According to data compiled by the PEW Internet & American Life Project 51 percent of all U.S. homes have a computer; 41.5 percent of all U.S. homes have Internet access (Horrigan, 2009).

2. **GLOBAL DIVIDE**

The concept of the digital divide was originally popularized with regard to the disparity in Internet access between rural and urban areas of the U.S. Another key dimension of the digital divide is the global digital divide, reflecting existing economic divisions in the world. The global digital divide is distinguishable from the digital divide, in that Internet has developed unevenly throughout the world causing some countries to fall behind in technology, education, labor, democracy, and tourism (Global Digital Divide, 2010). There is considerable worldwide concern that the explosion of the Internet may leave many nations far behind, producing growing disparities between advanced industrialized and developing societies. In theory the Internet can broaden and enhance access to information and communication in developing nations, because it offers a relatively cheap and efficient service.

Despite the explosive growth of Internet access and use in developing countries, a disproportionate number of users are still concentrated in developed countries, especially the United States. The G8 countries (Canada, France, Germany, Italy, Japan, Russia, the UK and the US) are home to almost 50 percent of the world's total Internet users even though they had just 15 percent of the world's population (Global Digital Divide, 2010). According to the International Telecommunication Union, worldwide, only 14 percent of the population is online, compared with 62 percent for the United States and an even higher ratio in some Western European countries, (Swartz, 2006).

3. IMPACTS OF DIGITAL DIVIDE

3.1 Social Impacts

Despite the widespread diffusion of the Web and related technologies, there are areas where the Internet is used sparingly, if at all (Agarwal, 2009). Beyond the political rhetoric and research numbers, there are people stuck on the wrong side of the digital divide in communities around the nation and the world.
This global digital divide widens the gap in economic divisions around the world. Countries with a wide availability of Internet access can advance the economics of that country on a local and global scale. In today's society, jobs and education are directly related to the Internet, in that the advantages that come from the Internet are so significant that neglecting them would leave a country vulnerable in a changing market. Volunteer groups have worked hard to illustrate the need for improved technology services. However, majority of the developing countries lack the resources needed to be dedicated to developing a strategic technology plan, leaving these economies at a disadvantage. More importantly, there needs to be a central coordination of efforts where information can be exchanged and utilized for the benefit of all. The irony is that one of the best ways a county could coordinate these efforts is through online and fast access to information (the Internet) and digital technologies, which is in turn contributing to the digital divide phenomenon worldwide.

A major social impact is the impact on the relationship of primary, secondary, and post secondary education institutions and other critical institutions like libraries, and how undercapitalized schools are prevented from providing adequate technology and training for their teachers and students (Servon, 2002). This furthers the divide and gap in inequalities. Should we expect small-town businesses to enter the digital economy, and students to enter the digital classroom, via a dial-up connection? The Internet can bring life-changing opportunities to those who don't live in large cities, but only if it is available and affordable. Even in cities and suburbs, the fact that broadband is too slow, too expensive and too poorly subscribed is a significant deterrent on social change and economy. Some experts estimate that universal broadband adoption would add $500 billion to the U.S. economy and create 1.2 million jobs (Copps, 2006). People's actions are governed in the sense that they are not able to access various technologies and the functions that go with them. In terms of power, a person who does not have access to digital resources is constrained through not having the resources to do something important (Moss, 2002).

3.2 Ethical Impacts

It is argued that a major problem with much of the digital divide research is a failure to include ethical concerns as an explicit part of analyzing and interpreting digital divide phenomenon. If researchers include more recognition of ethics with their findings about divide gaps, it is likely that they will produce better research and findings as well as more defensible linkages between study reports and policy deliberations. The digital divide, if ignored could eventually disempower, discriminate, and generate dependency. It can engender new forms of colonialism and apartheid that must be prevented, opposed and ultimately eradicated (Hacker, 2003). One of the problems that is said to contribute to digital divide is known as redlining. This is when telecommunications companies refuse to provide Internet services to rural areas or low-income areas where they won't generate sufficient revenues in the short term. The denial of access through prohibitive cost is clearly a case of force, even though in the national setting it occurs via the operation of the market. People are prevented from having access to digital technology because of factors like costs and pre-existing inequalities (Moss, 2002). Power of coercion is also seen in digital divide. Instances of this power involving digital divide are where people are coerced into purchasing systems that may be inferior or to allow adequate access. Advances in software and processing power are frequently structured in ways that make technology useless within a short span of time furthering the inequalities gap (Moss, 2002).

3.3 Political Impacts

While more than 70 percent of adults in the United States get their political news from television, the growing importance of the Internet on American politics is undeniable. The Pew Internet and American Life Project found that for the first time a majority (55%) of voting-age adults engaged with politics online during the 2008 presidential election (Davy, 2009).

The development of advanced tools and online services has made it easy to get information, interact with other people, and share opinions, all of which are important when it comes to politics. The number of people using online social networks like Facebook and Twitter continues to grow exponentially. The Internet is a fantastic medium for participation, and the Pew research suggests that people want to use it to engage with politics (Davy, 2009). The Pew data shows that people admit they go online to get information that agrees with their existing viewpoint. To a certain extent, this changes the relationship people have with news. They are not dispassionately weighing the evidence about two candidates to see which one they agree with. They are coming to the debate with pre-existing views. They go online searching for news to know what's going on with their candidate. They want to know, almost like a sports mentality, what the score is, what happened today? How does it affect my “team?” But aside from that, two specific questions bubble to the surface: how long until the Internet is more important than television for politics? Will cable news suffer the same fate as newspapers and landline telephones (Davy, 2009)?

One of the main problems associated with the digital divide as applied to a liberal democracy is the capacity to participate in the new public forum, the cyberspace (as in the extreme case), exclusively computer-based democratic participation (deliberation forums, online voting, etc) could mean that no access means no vote. Therefore, there is a risk that some social groups, those without adequate access to or knowledge of information technology, will be under-represented (or others over-represented) in the policy formation processes and this would be incompatible with the equality principles of democracy (Digital Divide, 2010).

At the moment, the Internet has a long way to go to catch up to television as the main source for political content. According to Pew's research, clearly television is the dominant mode of political discourse in this country. However, the segment of the population that most widely relies on the Internet for political content is people under the age of 30, and they will eventually become the majority (Davy, 2009).

4. CONTRIBUTING FACTORS TO DIGITAL DIVIDE

4.1 Social Barriers

Published research and data point to some alarming statistics. Jeremy Moss in *Power and the Digital Divide* states that there is a clear discrepancy between the access to the Internet enjoyed by White American (46.1%) and Asian American & Pacific Islander (56.8%) households. This is more than double the rate of Black (23.5%) and Hispanic (23.6%) households. The degree of annual income is also tracked in terms of Internet access. The statistics show 86.3 percent of households earning $75,000 and above per year had Internet access compared to 12.7 percent of households earning less than $15,000 per year. Nearly 65 percent of college graduates have home Internet access, while only 11.7 percent of households headed by persons with less than a high school education have Internet. The causes of this inequality of access to online resources are closely related to broader patterns of socio-economic inequality (Moss, 2002). The divide persists because of market forces, unequal investment in infrastructure, discrimination, insufficient policy efforts, and culture and content. The causes of the digital divide range from the high price of technology and broadband to the lack of electricity and education in the developing world. Major factors contributing to the gap are income and education levels, race and ethnicity, age, household type, geographical location and disabilities among others. The digital divide is a multi-faceted problem. Access to computers and the Internet alone will not narrow the economic, educational and social divide between those who will benefit from new technologies and those who will not.

4.2 **Access Barriers**

Mental barriers of access are often neglected in the discussion about the digital divide. It is known that large segments of even the developed countries, marked by high technology, still have very little digital experience. However, a European study conducted in the Netherlands revealed that in 1998 only 36 percent of the population had some or very few digital skills (Dijk, 2003). Current discussions about the digital divide are dominated by the lack of universal availability of the hardware. Data constitutes strong evidence of gaps in the possession of computer and network connections among a number of social categories during the 1990s. These categories were discussed earlier and include: income, education, occupation, age, gender ethnicity, and geographic location. It has been shown that most of these gaps of possession have increased during the 1990s and 2000s. The big question concerning the widening gaps is whether these trends will continue.

The most common definition of digital skills is instrumental skills: the ability to operate hardware and software. PCs and computer networks were renowned for their user-unfriendliness until well into the 1990s. Major improvements were made with the introduction of graphical and audiovisual interfaces. According to Dijk gaps of digital skills can easily be shown to exist. This is further documented by the amount of resources organizations are devoting to training or retraining their employees to improve their information technology skills and improve their productivity and efficiency (Dijk, 2003).

4.3 Demographic Barriers

The level of democratic openness might also determine the extent of the divide. A country that deliberately limits access to the Internet by its citizens such as China, will clearly widen an information gap. Secondly, lack of fluency in English will also be a disadvantage as a high percentage of internet sites are still only in English (Moss, 2002).

5. POSSIBLE SOLUTIONS TO BRIDGING DIGITAL DIVIDE

Various groups have sprouted up to help bridge the digital divide, both in the U.S. and abroad. The Communications Workers of America, part of the giant AFL-CIO labor union, has launched Speed Matters, a website that calls for a "national high speed broadband policy" from the U.S. government that would mirror past policies that helped develop canals, railroad, and the national highway systems. The United Nations has had two World Summits on the Information Society to help address the global problem of the digital divide. A group called One Laptop per Child aims to provide cheap computers for impoverished children around the globe (Glaser, 2007). Organizations such as Geekcorps, EduVision and Inveneo also help to overcome the digital divide. They often do so through the use of education systems that draws on information technology. The technology they employ often includes low-cost laptops/subnotebooks, handhelds (eg. Simputer and E-slate), tablet PCs, Mini-ITX PCs and low-cost WiFi-extending technology reach. In addition, other information technology material usable in the classroom can also be made at lower expenses, including projectors (Digital Divide, 2010).

The Library of Congress and UNESCO plan to move ahead with the World Digital Library project, which is currently in testing phase and will be available to the public in late 2010. Started two years ago with a $3 million grant from Google and technical assistance from Apple, the World Digital Library will digitize special and rare materials from libraries and other cultural institutions around the world and make them available for free on the Internet. The project aims to promote international and intercultural understanding, increase the quantity and diversity of cultural materials online, and contribute to education and scholarship. A key aspect of the project is to bridge the digital divide in developing nations so all countries and regions of the world can participate and be represented in the World Digital Library. The library will also be in seven different languages (Swartz, 2008).

6. CURRENT TREND

The problem of the digital divide is complex and multidimensional. By definition, the various digital divides are closing over time to some extent. More people are adopting digital technologies as the costs drop and very few people, who have computers, abandon them completely. In the U.S., Nielsen/NetRatings found that 78 percent of residential Internet users had broadband connections in 2006, up from 65 percent a year earlier (Glaser, 2007). But as far as total broadband penetration in the entire population, the U.S. came in 15th place among the top 20 economies worldwide in 2005, according to the International Telecommunication Union (Copps, 2006).

As for demographic divides among U.S. Internet users as a whole (not just broadband), the Pew Internet & American Life Project has made some broad conclusions.
"Our general finding is that there is no 'divide' between whites and English-speaking Hispanics," Pew Internet director Lee Rainie stated. *"The gap has narrowed a bit for blacks compared with whites, but there is a continuing, persistent difference in Internet adoption between blacks and whites. The much bigger divides are between young and old and between the well-educated and less-well-educated”* (Horrigan, 2009).
A recent Pew Internet survey in December 2006 showed the stark differences in Internet usage among various groups in the U.S. More than 80 percent of people aged 18 to 49 use the Internet, while only 33 percent of those older than 65 do. And in racial groups, 72 percent of Whites and 69 percent of English-speaking Hispanics use the Internet, while 58 percent of African-Americans do. Plus, 59 percent of those with a high school education use the Internet, while 91 percent of college-educated population do (**Horrigan, 2006**). For Pew Internet's most recent survey from December 2009, please refer to (http://www.pewinternet.org/Trend-Data.aspx).

What Pew has found is that people who have access to high-speed broadband connections are more likely to create and read blogs, share photos and video and interact in social networks. Those without broadband are being left behind, using the Internet less and at slower speeds, are missing opportunities to gain crucial experience with the multimedia web (Glaser, 2007).

7. CONCLUSION

Due to the range of criteria which can be used to assess the imbalance, and the lack of detailed data on some aspects of technology usage, the exact nature of the digital divide is both contextual and debatable. Criteria often used to distinguish between the "haves" and the "have-nots" of the digital divide tend to focus on access to hardware, access to the Internet, and details relating to both categories.
In the information and network society, relative differences in getting information and lines of communication become decisive for one’s position in society, more than in every society in history before. Giving everybody a computer and a network connection, banning the cutting lines of “segregation” in this way, will not remove them. Much deeper and more clear-cut differences in skill and usage will appear as both technology and society increasingly differentiate.
The sheer scale of the digital divide between countries hampers the fulfillment of even the most basic needs. Not having access to forms of technology which are instrumentally vital for access to other goods (employment, knowledge about healthcare and medical informatics, natural disasters, political movements, or access to democratic institutions) is a larger threat to society’s well being than at least some of the threats that accompany digital technology.

Social and political opinion has developed various positions with an interpretation of the current state of the digital divide. One is that digital divide is non-existent. This is supported because of the increases in adoption rates of computers and broadband access to the Internet.

The second is the acceptance of some present divides, claiming that they will soon disappear. It goes without saying that a medium that is increasingly adopted into society is approaching average segments of the population. It is simply a question of some having the technology now and others having it later. This is a case of ignorance. It took nearly 70 years for the complete adaptation of the telephone (Dijk, 2003). It may be reasonable to assume that the passage of time will reduce the digital divide as well.
The final is differentiation: some gaps are decreasing while others are growing. The issues here are what relative differences will remain in 10-20 years and what kind of computers and Internet will be possessed. This also sheds light on the various social and economic inequalities. Some claim that the information or knowledge society will discard old inequalities and bring completely new ones based on differential knowledge and education. The current digital divide is a very complex and a dynamic phenomenon that will not fade in the near future. The concern is that if digital divide is not recognized, acknowledged, and addressed, the gap will not only widen but it will create major challenges for future generations.

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REVISITING JOB CHARACTERISTICS AND OCB: EXAMINING THE RELATIONSHIP BETWEEN CORE JOB CHARACTERISTICS AND INDIVIDUAL DIMENSIONS OF OCB

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ABSTRACT

The present research examines the relationship between core job characteristics and organizational citizenship behaviors. Prior studies that have empirically examined the relationship between these constructs have reported conflicting results as to which job characteristics affect which OCBs. Controlling for known attitudinal and dispositional predictors, we examine whether each job characteristic accounts for incremental variance in three types of OCB (i.e., altruism, civic virtue, and taking initiative). Skill variety was found to explain a significant amount of variance in both taking initiative and civic virtue. The study's implications are discussed and recommendations made for future job characteristics and OCB research.

Keywords: *Job Characteristics***,** *Organizational Citizenship Behavior*

1. INTRODUCTION

In recent years, there has been an increasing focus on fully utilizing available human resources in order to maximize profits and improve efficiency. In attempts to accomplish this, organizations have invested in leadership training and job redesign initiatives to increase employee productivity (Chiu and Chen, 2005). Although such efforts have proven successful in increasing employee motivation and improving the performance of tasks that are assigned to one's job role, there has been a growing emphasis on the importance of increasing positive behaviors that fall outside of the prescribed job role (Organ, 1988). These extra-role behaviors have been given various labels, including include prosocial organizational behavior (Brief and Motowidlo, 1986), extra-role behavior (Van Dyne, Cummings, and McLean-Parks, 1995), contextual performance (Borman and Motowidlo, 1993; Campbell, 1994; Pulakos, Borman, and Hough, 1988), and organizational citizenship behavior (Bateman and Organ, 1983; Smith, Organ, and Near, 1983), each with slight variations in their conceptualizations. The construct of focus in the present research is organizational citizenship behavior (OCB), which is defined as discretionary behaviors that contribute to the overall effectiveness of the organization and do not result in formal reward for the individual performing them (Organ, 1988). Organizational citizenship behaviors range from helping a coworker in a time of need to protecting the reputation of the organization from outside harm--from simple altruistic acts to actions that demonstrate exceeding loyalty to an organization. Protagonists of the construct purport that organizations could not function without the presence of OCB (Blakely, Andrews, and Fuller, 2003; LePine, Erez, and Johnson, 2002).

2. LITERATURE REVIEW

There has been much debate on the specific behaviors and the terminology related to OCB (see Blakely, et al., 2003; Chiu and Chen, 2005; LePine, et al., 2002; Organ, 1997). Organizational citizenship behavior originally described behaviors that fell under two categories, altruism and generalized compliance (Smith, et al., 1983). Organ (1988) later expanded the OCB construct to include five distinct behaviors, and various operationalizations of this taxonomy have received extensive empirical support (LePine, et al., 2002; MacKenzie, Podsakoff, and Fetter, 1993; Moorman, Niehoff, and Organ, 1993; Podsakoff, MacKenzie, Moorman, and Fetter, 1990). The behaviors in Organ's taxonomy include: altruism (helping coworkers), conscientiousness/taking initiative (being a good organizational member), sportsmanship (refraining from negative behaviors such as complaining), courtesy (having consideration for others) and civic virtue (being an active and involved member of the organization; Organ, 1990). Still, there are additional behaviors that are proposed by other researchers as falling under the OCB construct, including social participation, obedience, functional participation, and "keeping up with changes." (Van Dyne, Graham, and Dienesch, 1994). Research that focuses upon some of these alternative behavioral dimensions is scarce and does not share the extent of empirical support as Organ's taxonomy (LePine, et al., 2002).

OCB research has increased over the last decade, as support for the positive effects related to these behaviors have been found. Its association with organizational effectiveness has caused an increased interest in identifying the predictors of OCB in different scientific disciplines including management, industrial/organizational psychology, and service leadership (Blakely, et al., 2003). Among the predictors of OCB that have thus far been identified are job satisfaction (Bateman and Organ, 1983; Smith, et al., 1983; Williams and Anderson, 1991), perceived organizational support (Moorman, Blakely, and Niehoff, 1998), supervisor behavior (Konovsky and Pugh, 1994), distributive justice (Moorman, 1991), personality characteristics (Neuman and Kickul, 1998) and job characteristics (Van Dyne, et al., 1994). Current research is also focused on the interaction among many of these variables, as well as the potential mediating effects of different organizational elements, such as organizational culture and design (Blakely, et al., 2003).

A challenge with respect to OCB research has been determining how to best operationalize these behaviors (LePine, et al., 2002). There has been some debate among researchers as to whether measuring OCBs is best accomplished via self-report or via observations by another party, such as a manager (Blakely, et al., 2003). There are inherent problems with both forms of measurement that could account for inconsistencies between the reporting methods, such as individuals exaggerating their own behaviors, or supervisors being absent during the occurrence of these actions (Blakely, et al., 2003). Obviously it would be best to use management reports as well as self-reports, but this is often difficult, time consuming, and creates difficulties with maintaining anonymity (Blakely, et al., 2003).

Researchers have also questioned the inherent nature of OCB in an increasingly competitive business sector by claiming that individuals engage in these behaviors because they believe that at some point they will be rewarded (LePine, et al., 2002). Since many organizations employ similarly hardworking individuals, sometimes distinctions can only be made by those who exceed expectations by going above and beyond their formal job descriptions (LePine, et al., 2002). If it is indeed the case that an employee is expecting or hoping for a reward in the future, these actions can no longer be considered OCBs based upon Organ's (1988) definition. This issue has not been resolved, but researchers are still interested in understanding this behavior, as well as figuring out how to promote and encourage it.

2.1 Job Characteristics

Although there are many substantiated predictors of OCB, job characteristics have been historically overlooked with the exception of a few recent studies (Chen and Chiu, 2009; Chiu and Chen, 2005). The job characteristics model was developed by Hackman and Oldham (1975) as a predictor of employee work motivation. The job characteristics model proposed that five core job dimensions lead to a series of critical psychological states, resulting in internal motivation, increased job satisfaction, improved performance quality, low absenteeism, and low turnover. The core job dimensions include autonomy, skill variety, task identity, significance and feedback (Hackman and Oldham, 1975). Skill variety refers to the ability of employees to use a variety of skills and talents in order to complete a given task. Task identity represents how much of the task produces a whole piece of work, instead of just producing a small fraction of a finished product. Task significance relates to the internal feelings of importance an employee feels in completing his/her assignments. Autonomy simply represents the degree of freedom and control an employee has in performing the necessary task requirements. Finally, feedback simply refers to the knowledge an employee has of the results of his/her performance. These five core job dimensions are theorized to lead to the psychological states of experienced meaningfulness, felt responsibility, and knowledge of results, which in turn, leads to the desired positive outcomes of productive work behavior, but only for those individuals who are high in the category of growth-need strength (Hackman and Oldham ,1975). Growth-need strength refers to the extent to which individuals view their jobs as a stepping stone to achieving the necessary skills to reach personal achievement and self-actualization (Hackman and Oldham, 1975). Using a hierarchical regression analysis of 247 Job Diagnostic Survey (JDS) questionnaires completed by employees from a United States state agency, Champoux (1991) found significant support for job characteristics leading to critical psychological states, moderated by growth need strength. Subsequent studies have found support for the core job dimensions in relation to positive work outcomes, but there has been little replication of the effect on experienced critical psychological states or the moderating effects of growth-need strength (DeVaro and Brookshire, 2007).

Despite the conflicting research for separate parts of the job characteristics model, there is evidence that the core job dimensions are positively related to job performance, work quality, and job satisfaction (DeVaro and Brookshire, 2007; Spector and Jex, 1991). Some of the difficulty in producing strong empirical data is the result of inconsistent operationalizations used to assess job characteristics model (DeVaro and Brookshire, 2007). Although the Job Diagnostic Survey has been empirically supported through a number of studies, some research still relies on the use of the Job Characteristics Measure (JCM), which combines all of the core job dimensions into one single score (DeVaro and Brookshire, 2007). This can be problematic since the JCM has received little empirical support, and most researchers emphasize the importance of testing each job dimension individually (DeVaro and Brookshire, 2007).

2.2 Job Characteristics and OCB

In the mid 2000s, researchers followed Organ, Podsakoff, and MacKenzie's (2006) suggestion to focus on the possibility of job characteristics as a predictor of OCB (Chen and Chiu, 2009). It was hypothesized that jobs with "intrinsically motivating potential" would lead to a "sense of responsibility and increased employee's perceptions of task significance" (Chen and Chiu, 2009: 477). In turn, these feelings of responsibility and significance were thought to lead to an increased understanding of the work environment; therefore, encouraging employees to build mutually dependent relationships that would increase the likelihood of OCB (Chen and Chiu, 2009). If the redesign of jobs could encourage employees to engage in OCB, using this knowledge could have a positive impact on organizational performance (Grant, 2008). Since jobs that are regarded as "challenging, important and autonomous" are more intrinsically motivating, it also makes intuitive sense that redesigning certain characteristics of the job may increase OCB (Piccolo and Colquitt, 2006). There has been some development in relating specific job characteristics to organizational citizenship behaviors (Chen and Chiu, 2009; Chui and Chen, 2005; Piccolo and Colquitt, 2006). However, the results have been conflicted. In a correlational study of 270 employees from 24 electronic companies, Chiu and Chen (2005) focused on how improving job characteristics indirectly improved OCB via increases in perceived organizational support, job satisfaction, and improved employee affective states. Using Hackman and Oldham's (1975, 1980) job characteristics measure and a generalized OCB measure developed by MacKenzie et al. (1993), Chiu and Chen (2005) found that skill variety, task significance and feedback were the only job characteristics that correlated with organizational citizenship behavior (r = .23, .37, 20 respectively, all p < .01), and job satisfaction mediated the relationships. Consistent with prior research (Farh, Podsakoff, and Organ, 1990), task identity and job autonomy were not significantly related to organizational citizenship behavior (r = -.04 and r = .04, p < .05; Chiu and Chen, 2005). In a subsequent study that examined the mediating effects of job involvement in the relationship between job characteristics and another generalized measure of OCB (Coleman and Borman, 2000), Chen and Chiu (2009) found a positive relationship between all the job characteristics (i.e., skill variety, task identity, task significance, autonomy, and feedback) and OCB (r = .23, .44, .43, .48, .24 all p < .01). A significant relationship was also found between job involvement and OCB (r = .9, p < .01).

Although there has been some support that job characteristics have a favorable effect on employee engagement in OCB, which specific characteristics are important is still unclear. Additionally, many of the studies to date have examined a generalized measure of OCB, treating it as a unitary construct. Few studies have examined the relationship between individual job characteristics and the individual types of organizational citizenship behaviors (Fahr, et al., 1990 and Todd and Kent, 2006 are the exceptions) The purpose of the present research is to examine the relationship between the core dimensions of the job characteristics model (i.e., skill variety, task identity, task significance, job autonomy and feedback) and four individual organizational citizenship behaviors (i.e., altruism, sportsmanship, conscientiousness and civic virtue). Since the findings in the literature are inconsistent with respect to the effect that job characteristics have on generalized OCB, we examine the direct relationship between job characteristics and OCB at the sub-dimension level without the incorporation of mediating or moderating processes.

This study expands upon existing research by further identifying the relationships among these variables, when controlling for common predictors of OCB (e.g., prosocial self-concept, job satisfaction, and distributive justice). Rather than hypothesizing specific relationships between sub-dimensions, for the purpose of this research we hypothesize that each job characteristic will have a positive effect on each type of OCB. Thus, it is hypothesized that:

Hypothesis 1. Autonomy will be positively correlated with OCB after controlling for job satisfaction, prosocial self-concept and distributive justice.

Hypothesis 2. Skill variety will be positively correlated with OCB after controlling for job satisfaction, prosocial self-concept and distributive justice.

Hypothesis 3. Task identity will be positively correlated with OCB after controlling for job satisfaction, prosocial self-concept and distributive justice.

Hypothesis 4. Task significance will be positively correlated with OCB after controlling for job satisfaction, prosocial self-concept and distributive justice

Hypothesis 5. Feedback will be positively correlated with OCB after controlling for job satisfaction, prosocial self-concept and distributive justice

3. METHOD

3.1 Participants

The sample for our study consisted of 169 working adults from a broad cross-section of U.S. organizations. Graduate students in a large southern metropolitan university recruited working individuals between the ages of 18 to 65 to complete either a paper-based or online version of the survey. Participation was voluntary and no compensation was given. Sixty-five percent of the respondents were female. Fifty-seven percent identified themselves as Caucasian, while 20% identified as Hispanic/Latino. The mean age fell in between 26 and 35. Thirty-two percent indicated they worked in a professional capacity, 23% in clerical, 15% in sales, and 14% in managerial. The average reported length of time with their current employer was 2 to 4 years (27%) with 26% reporting 3 months to 1 year and 23% reporting 4 to 8 years. Forty percent reported earning less than $20,000 per year, 33% earned $20,000 to $40,000, and 9% earned more than $70,000.

3.2 Measures

Organizational Citizenship Behavior. To assess the extent to which participants engaged in behaviors above and beyond their job description to help the organization and co-workers, a self-report version of the OCB scale developed using Organ's original 5-factor model was administered (Podsakoff, et al., 1990). Prior confirmatory factor analyses for the OCB scale have shown adequate model fit (Podsakoff, et al., 1990). The scale also showed strong convergent validity with Organ's theoretical model (Podsakoff, et al., 1990). In the current study, four of the five original factors were measured, including altruism, sportsmanship, taking initiative, and civic virtue. Participants were asked to indicate how often they engage in certain behaviors. Each factor was assessed with four questions measured on a 5-point Likert-type scale with "1" indicating to a great extent, "4" a considerable extent, "3" a moderate extent, "2" a limited extent and "1" not at all or not applicable. The altruism subscale contained items such as "Help others who have been absent." The taking initiative subscale included items such as "Volunteer for additional duties." The civic virtue subscale contained items such as "Keep up with developments in the company." Internal consistency reliability for the scale has ranged from .78 to .85 (Podsakoff, et al., 1990). For the present study, the Cronbach alpha reliability coefficients for the altruism, taking initiative, and civic virtue subscales were .81, .82, and .89, respectively. Due to the low reliability ($\alpha = .47$), the sportsmanship subscale was eliminated from further analysis.

Job Characteristics. An abbreviated version of the job dimensions subscales from the Job Diagnostic

Survey (JDS; Hackman and Oldman, 1975) was used to assess the amount of autonomy, task identity, skill variety, feedback and task significance the participants felt they received from their jobs. Participants were asked to rate the accuracy of the statements about their job on a 5-point Likert-type scale, with "1" being very inaccurate, "2" being somewhat accurate, "3" indicating uncertainty, "4" being somewhat accurate and "5" being very accurate. The autonomy subscale include items such as, "The job gives me considerable opportunity for independence and freedom in how I do the work." The task identity subscale included items such as, "The job provides me a chance to completely finish the pieces of work I begin." The skill variety subscale included questions such as, "This job requires me to use a number of complex or high level skills." Due to low reliability of both the feedback (α = .58) and significance (α = .61) subscales, these scales were eliminated from further analysis. The Cronbach alpha reliability coefficients for the autonomy, task identify, and skill variety subscales were .80, .80, and .79, respectively.

3.3 Control Variables

Distributive Justice. Studies have indicated that employee perceptions of fairness are positively related to organizational citizenship behaviors; therefore, the present study controlled for distributive justice (Niehoff and Moorman, 1993). Equity theory states that a tension may exist when the employee's perception of his work input is not equally aligned with the distribution of his rewards (Adams, 1963; Niehoff and Moorman, 1993). In order to relieve this tension, an employee may become less likely to exhibit organizational citizenship behaviors; however, if an employee feels the company is fair, he may become more likely to perform these behaviors (Niehoff and Moorman, 1993). The current study controlled for distributive justice using a 5-item scale developed by Niehoff and Moorman (1993). Items to assess employee perception of fairness within the organization include, "Overall, the rewards I receive here are fair." The items were scored on a 7-point Likert-type scale where participants were asked to indicate the degree to which they agreed or disagreed with each statement, with a "1" indicating strong disagreement, "2" moderate disagreement, "3" slight disagreement, "4" neutrality, "5" slight agreement, "6" moderate agreement and "7" indicating strong agreement. The internal reliabilities for this scale as reported in previous research has typically been above .90 (Niehoff and Moorman, 1993). Cronbach's alpha coefficient for the present study was .83.

Job Satisfaction. When measuring the relationship between organizational citizenship behaviors and job characteristics, we also decided to control for job satisfaction. It has been suggested that intrinsically satisfying jobs, high in task identity, task significance, feedback, autonomy, and skill variety may lead to job satisfaction which is positively correlated with organizational citizenship behavior (Chen and Chiu, 2009). The purpose of the current study is to provide support for the relationship between job characteristics and individual dimensions of OCB, even when controlling for variables such as job satisfaction. Three items from the General Motors Faces Scale developed by Kunin (1955) were used to indicate how satisfied participants were with their jobs. The anchors for the item ranged from a frowning face (scored 1), to a smiling face (scored 7). Respondents were instructed to circle the face that came closest to their own feelings with respect to their "satisfaction with the company," "satisfaction with the supervision that [they] get on the job," and the "satisfaction with the work itself." The General Motor Faces scale has been shown to have strong convergent and divergent validity with the Job Description Index (Smith, Kendall, Hulin, 1969), has consistent reliability scores that approximate multi-item verbal scales, and has the additional benefit of reducing the length of the questionnaire (Taber, 1991). A graphics measure is also helpful in that it captures the affective response immediately without requiring translation and is applicable for those who are illiterate (Judge, et al., 2000). The Cronbach's alpha for the present study was .78.

Prosocial Self-Concept. Prosocial self-concept was measured using the Social Interest Scale (SIS) developed by Crandall (1975). The SIS was originally developed to examine one's "interest in the interests of mankind" (Ansbacher, 1968: 48) and has been adopted for contemporary use as a values-based measure of prosocial self-concept (Mayfield and Taber, in press). The scale consists of 24 word pairs, each representing a personal trait or value, and participants are asked to circle which of the values they would rather possess (Crandall, 1975). The scale includes 15 values that are prosocial in nature and 9 items serve as filler and are not representative of anything. The instrument is scored by allotting one point to every prosocial value in the pair that has been circled, for a total possible score of 15

(Crandall, 1975). Crandall used groups of convicted felons and university employees to assess construct validity by showing that the university employees scored higher on the scale than the convicted felons, indicating a higher social interest of the university employees (Crandall and Reimanis, 1976). The scale has shown convergent validity with other positive constructs such as peace (r = .32, p < .05), altruism and trustworthiness (r = .32, p < .05), and family security (r = .43, p < .001; Crandall, 1975). Additionally, the measure has been found to be negatively correlated with hostility (r = -.50, p < .001) and depression (r = -.38, p < .02; Crandall, 1980). The internal consistency scores for this measure have been approximated at .73, .71 and .70. The internal consistency coefficient, KR-20, for the present study was .78.

4. RESULTS

Table 1 contains the means, standard deviations and correlations for all measures used in the study. Based upon the zero-order correlations, the job characteristics dimensions (i.e., autonomy, skill variety, and task identity) were positively related with OCBs (i.e., altruism, taking initiative, and civic virtue), with the exception of autonomy and civic virtue. The strongest correlations were between skill variety and taking initiative (r = .42, p < .001), skill variety and civic virtue (r = .31, p < .001), and autonomy and altruism (r = .26, p < .01). Due to low scale reliabilities, the OCB subscale sportsmanship (α=.47), and the job characteristics subscales, feedback (α=.58) and task significance (α=.68), were dropped. Job satisfaction was also found to be significantly correlated with the three organizational citizenship behaviors: altruism (r = .27, p <.001), taking initiative (r = .24, p <.01) and civic virtue (r = .29, p <.001). Job satisfaction was significantly correlated with distributive justice (r = .62, p <.001). To evaluate each of our hypotheses, we examined zero-order correlations and performed a hierarchical regression. Assumptions of normality, homogeneity, and linearity were evaluated and found to be acceptable.

TABLE 1: MEANS, STANDARD DEVIATIONS, AND CORRELATIONS

	Mean	s.d.	1.	2.	3.	4.	5.	6.	7.	8.
1. Prosocial Self-Concept	9.02	3.26								
2. Job Satisfaction	4.92	1.49	.02							
3. Distributive Justice	4.81	1.34	.09	.62***						
4. Skill Variety	2.92	1.16	-.11	.31***	.17*					
5. Task Autonomy	3.58	1.21	.00	.35***	.37***	.24**				
6. Task Identity	3.97	1.02	.10	.47***	.32***	.18*	.36***			
7. Altruism	4.00	.89	.09	.27***	.14	.18*	.26**	.25**		
8. Taking Initiative	3.40	.98	-.05	.24**	-.05	.42***	.19*	.18*	.39***	
9. Civic Virtue	3.63	1.15	.03	.29***	.09	.31***	.13	.26**	.40***	.56***

n = 169.
* *p < .05*
** *p < .01*
*** *p < .001*

4.1 Results of Hypothesis Testing

Hypothesis 1 stated that autonomy would be significantly correlated with all OCB subscales after controlling for known correlates. From examining the zero-order correlations in Table 1, this first hypothesis was fully supported with autonomy being significantly and positively correlated with altruism (*r* = .26, *p* <.01) and taking initiative (*r* = .19, *p* <.05), but not with civic virtue (*r* = .13, n.s.). To further test whether autonomy predicted altruism, civic virtue, and taking initiative, we performed a hierarchical regression, the results of which are presented in Table 2. Two models were evaluated for each of the criterion (i.e., altruism, civic virtue, and taking initiative). In the first model, only the control variables (i.e., prosocial self-concept, job satisfaction, and distributive justice) were entered, and the second model included the controls and the job characteristic predictors (i.e., autonomy, task identity and skill variety). As seen in the first model for altruism, 6% of the variance was explained by the control variables ($p < .01$). Of the control variables, job satisfaction was the only one that accounted for unique variance (β = .18, $p < .01$). In model 2, we added the job characteristic predictors and although the incremental variance approached significance, it was nonsignificant ($p < .06$). Autonomy did not contribute any significant variance to civic virtue (β = -.01, n.s.) or taking initiative (β = .09, $p < .22$). Therefore, hypothesis 1 was not supported.

TABLE 2: RESULTS OF REGRESSION ANALYSES FOR ALTRUISM, CIVIC VIRTUE, AND TAKING INITIATIVE

	Altruism		**Civic Virtue**		**Taking Initiative**	
Variable	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Control Variables:						
Prosocial Self-concept	.03 (.02)	.03 (.02)	.01 (.03)	.02 (.03)	-.01 (.03)	.00 (.06)
Job Satisfaction	.18* (.06)	.12 (.07)	.29*** (.08)	.19* (.09)	.29*** (.07)	.19* (.07)
Distributive Justice	-.04 (.07)	-.07 (.07)	-.13 (.09)	-.13 (.09)	-.23** (.08)	-.25* (.07)
Job Characteristics:						
Task Autonomy		.13 (.08)		-.01 (.09)		.09 (.07)
Task Identity		.09 (.08)		.17 (.09)		.05 (.09)
Skill Variety		.07 (.07)		.24** (.11)		.30*** (.07)
F	4.02**	3.38**	4.89**	4.47***	6.27**	7.70***
R	.08**	.14**	.10**	.17***	.12**	.26
Adjusted R^2	.06**	.10**	.08**	.14***	.10**	.23
ΔR^2		.05		.07*		.14***

* *p < .05*
** *p < .01*
*** *p < .001*

Hypothesis 2 stated that skill variety would be significantly correlated with all OCBs after controlling for known correlates. Examination of the zero-order correlations in Table 1 shows that skill variety was significantly and positively correlated with altruism (*r* = .18, $p < .05$), taking initiative (*r* = .42, $p < .001$), and civic virtue (*r* = .31, $p < .001$). The regression analyses presented in Table 2 show that after controlling for prosocial self-concept, job satisfaction, and distributive justice, skill variety contributed additional variance to civic virtue (β = .24, $p < .01$) and taking initiative (β = .30, $p < .001$), but not altruism (β = .07, n.s.). Skill variety and job satisfaction together accounted for 14% ($p < .05$) of the variance in civic virtue and 23% (p < .001) of the variance in taking initiative. Therefore, hypothesis 2 was partially supported.

Hypothesis 3 stated that task identity would be significantly correlated with all OCBs after accounting for control variables. This hypothesis was supported by examining the zero-order correlations where task identity was correlated with altruism (r = .25, p <.01), civic virtue (r = .26, p <.01), and taking initiative (r = .18, p <.05). However, as shown in Table 2, after controlling for prosocial self-concept, job satisfaction, and distributive justice, task identity did not contribute significant variance to altruism (β = .09, n.s.), civic virtue (β = .17, n.s.), or taking initiative (β = .05, n.s.).

Hypotheses 4 and 5 stated that task significance and feedback would be significantly correlated with OCBs after using a hierarchical regression with control variables; however, due to the unreliability of these scales, these hypotheses could not be tested.

5. DISCUSSION

The purpose of the present study was to examine the relationship between job characteristics and organizational citizenship behavior while controlling for known predictors of OCB. Of the job characteristics, skill variety positively affected two types of organizational citizenship behavior, taking initiative and civic virtue. As expected, job satisfaction was also positively related with both of these behaviors, while distributive justice was related only to taking initiative. Our finding with respect to the important role that skill variety has on both civic virtue and taking initiative is consistent with related empirical evidence. In a transformational leadership/OCB study, Podsakoff, Mackenzie, and Bommer (1996) found that routine tasks (a substitute for leadership) had a significant negative effect on taking initiative (i.e., conscientiousness) (r = -.17, p < .01) and civic virtue (β = -.22, p < .01). Since routine tasks do not allow employees to utilize a variety of skills or engage in a diverse set of work activities, our results that skill variety is positively related to these behaviors is consistent with this prior research.

A surprising finding was that job characteristics, specifically autonomy, did not explain any significant variance in altruism after controlling for job satisfaction. Although unexpected, this finding is consistent with the results of Chiu and Chen's (2005) study, which showed no significant relationship between autonomy and a generalized measure of OCB (r = .04, n.s.). It should be noted however, that using a different generalized OCB measure, Chen and Chiu (2009) found a significant correlation between autonomy and OCB (r = .48, p < .01). In evaluating each OCB independently, we did find that the zero-order correlations between both autonomy and altruism (r = .27, p < .01), and autonomy and taking initiative (r = .19, p < .05) were significant, while the correlation between autonomy and civic virtue (r = .13, n.s.) was not. This suggests that examining each OCB independently is important since the results associated with each may vary. An alternative explanation for the difference in the findings between the studies may be that there are moderating variables that are not yet being taken into account. Future research should further examine the relationships between the specific job characteristics and each type of OCB and explore possible moderators.

5.1 Study Limitations

The present study has several limitations. First, since our sample was taken from a broad and diverse work population, caution should be used prior to applying our findings to specific work populations. Generalizability to specific populations and other job characteristic and OCB measures should be further tested. Second, we were limited in our ability to fully test our hypotheses due to the low reliabilities of certain scales (i.e. sportsmanship, feedback, and task significant). We also were forced to eliminate one item from the autonomy subscale to increase the reliability of this measure. Third, although shortened versions of many scales were used, the length of our survey may have also been a limitation. Participants may have become fatigued through the course of answering the questions, and may have not answered the questions accurately. Additionally, if questions were read in their entirety, there is the possibility that some participants may have answered in socially desirable ways, especially with the OCB scale. It should also be noted that this study was correlational in nature, and causation can only be theoretically inferred. However, it is unlikely that organizational citizenship behaviors would causally influence job characteristics in any meaningful way.

Although we found support for two of our testable hypotheses, forming a priori hypotheses specific to the relationship that each job characteristic has with each OCB might be preferable to an omnibus test in which a relationship is hypothesized with any and all of the job characteristics and OCB dimensions. Future research may want to posit specific hypotheses at the sub-dimension level for the relationships between job characteristics and OCB.

5.2 Conclusion

Since it has been suggested that organizations could not function without some level of OCB, those in leadership positions have attempted to increase employee engagement in these behaviors. If, as indicated by the present research, certain job design characteristics are related to the level of OCB exhibited by employees, organizations could benefit from allowing employees more discretion in carrying out their tasks and encouraging employees to use a variety of different skills in completing their assigned work. As the existing literature supports, increased engagement in OCB would favorably impact organizational performance and enhance organizational effectiveness (Organ, et al., 2006).

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BREAKING DOWN THE FORTRESS WALLS:
DECISION SUPPORT SOFTWARE IN THE DOMAIN OF TECHNICAL ANALYSIS

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ABSTRACT:

Not too long ago in the domain of technical trading, actionable information was accessible to only a rarefied group of traders with deep pockets. Networks were tightly controlled, and it cost a large sum of money to have an "information terminal" on one's desk. Power was thus located behind closely guarded fortress walls.The post-internet information technology revolution, however, has put paid to that. The fortress walls have come crashing down. Today, there is a retail revolution in trading underway, and the trader faces a problem of plenty, with a bewildering array of information technology tools to choose from. Wikipedia lists forty-seven functioning decision support software ecosystems for technical trading, including several that are freeware. SourceForge, the open-source software clearing house, lists fifty-one ecosystems under various stages of development. Even the mobile app world has joined in the fray, with a large number of decision support apps for technical trading available for iPhone and Android.An internet-based technical trading decision support ecosystem refers to an interdependent set of relationships between three major components, namely: an application platform, the programming languages used to code on this platform, and the pricing data. Typically, an application platform is proprietary to a vendor, can be coded via one or more preferred programming languages, and has one or more preferred data sources. All of this complexity raises the question: How should traders go about selecting the internet-based ecosystem that is right for them?In this research paper, we use Contingency Theory to formulate a framework for the selection decision. This framework is driven by factors such as cost, efficiency, human capital availability, compatibility, extensibility, ease-of-use, sustainability, installed base, customizability, openness, and security. Next, we use this framework to evaluate and compare three top ecosystems. Finally, we make our recommendation for the best technical trading decision support ecosystem.

Keywords: *Technical Analysis, Decision Support Software, Trading Data, Application Platform, Programming Language*

1. INTRODUCTION

In the early 20th century, the cutting edge of technology in the world of stock trading was a pneumatic tube at the NYSE, designed to transport documents around the building. By the sixties and seventies, however, innovations at the NYSE and other traditional stock exchanges were eclipsed by those of the electronic kind – which were increasingly happening at brokerage firms and new all-electronic stock exchanges such as NASDAQ.

The personal computer revolution of the early eighties led to stock exchanges ushering in a new era of capabilities, and electronic trading was available on the desktop anywhere to anyone who could afford the technology. It cost a large sum of money to have an information or trading terminal on one's desk, and the cost of the technology was a barrier to entry. Actionable information remained accessible to only a rarefied group of traders with deep pockets. Networks were tightly controlled, and thus, despite the potential of technology,true power remained localized and closely guarded.

It took internet revolution of the mid-nineties to truly democratize information in the trading realm. Today, the average person with a computer and a high-speed internet connection can harness information and trading capabilities that many professional traders could only wish for just thirty years ago.

However, the increase in technology brings with it a significant problem of its own – namely, that of choice and planning. Today's trader may be bewildered by the plethora of choices, at various levels of the technology stack (vertically integrated layers of technology). Such choice-making is intrinsically connected to the planning process, and upstream choices have downstream consequences as the planning process evolves. Choices made upstream help define a technology path, and once embarked upon,it may be very costly to reverse the path, or to change paths. Thus, technology-choice mistakes can be costly in a number of ways, and over a long term.

In this paper, we address this problem by offering a framework to assist technical traders in choosing an appropriate technology stack. We then demonstrate use of this framework by evaluating the principal competing stack components and configurations.

2. BACKGROUND AND THEORY

Information technology is the backbone of stock and futures electronic trading systems. Yet, the aspect of technology has received only a narrow focus of attention in academic research. Researchers have largely focused on issues related to optimization of system architecture trading [2] and the use of machine-learning techniques to create software that can learn to become better at trading [3]. However, these efforts are largely future focused, tend to delve in the hypothetical, and have limited – if any – present day practicability. Research has so far ignored a far more pressing issue where technology is concerned. That is, the issue of how to aid practitioners in selecting technology configurations from the range of what is currently available. While what is available may not be as technologically elaborate as, say, a neural-network based genetic algorithm for trading that is currently being dreamed up in an elite laboratory somewhere, it nevertheless deserves attention from the research community, in order to help the trader navigate among technology choices.

A technology stack is equivalent to a technical trading decision support ecosystem. An ecosystem necessarily has various interdependent parts, all of which have an impact on the whole. In the area of information systems research, such ecosystems are traditionally studied in the context of Contingency Theory [1]. This theory states that there is no single best way to organize technology to suit all organizational conditions and contexts, and hence in each case, technology should be appropriated in a way that considers the specifics of the context at hand.

As mentioned earlier, in the realm of internet-based trading, there is a plethora of options for filling the technology stack in various configurations. This range of configurations exists for a reason. Different traders and trading organizations need different configurations. No one configuration could fulfill the needs of all. Appropriate configurations are necessarily context dependent. Contingency Theory provides a template to identify and evaluate various factors that need to be considered to define the context. In the next section we develop a framework for the configuration selection decision.

3. FRAMEWORK DEVELOPMENT

In this section, we formulate a framework for enabling traders and trading organizations to configure their internet-based trading technology stack. To develop this framework, we undertook a thorough review of two broad categories of literature. One category was that related to trading technology in the practitioner literature domain. The other category was in the research literature domain, and was related to factors of influence discussed in Contingency Theory.

An important goal in Contingency Theory is to explicate context. Context gives rise to an understanding of what may or may not work in a given scenario, and why. A given context may be elaborated by identifying factors that help define it. Once explicated, the context should help in configuring a target structure (typically, in an organization). In our case, the target structure is the technology stack. A key step configuring the technology stack is to first identify the key components of the technology stack. The review of practitioner literature was intended to help us define the core components of the trading technology stack. The review of the research literature was intended to help us identify the factors that help define the context. Figure 1 describes the framework.

Components of Technology Stack

Our review of the practitioner literature reveals three primary components that make up a configurable technology stack for internet-based electronic trading. The components identified by us are pricing data, programming languages, and application platform.

The application platform refers to what is generally described as "the trading software." At a minimum, the capabilities expected of the application platform are that it can be fed real-time pricing data, it can use these data to produce user-oriented charts, it can facilitate the creation of technical trading indicators, and it can enable order-taking and ending. Surprisingly, we find that available application platforms typically tend to inadequately express all of these capabilities.

In all cases, pricing data can be sourced independently of the application platform. Although pricing data is often available from the vendor of the applicatoin package as part of package deal, there are non-trivial reasons why it can be – and often is – sourced separately. Our research finds that pricing data varies across different vendors. Different vendors account for differences in data precision, and in specific symbols for which prices are supplied. The cost of data varies according to what is supplied, and thus, the diversity of pricing data vendors allows traders to order data according to their needs and what they can afford.

Typically, application platforms can be manipulated via more than one programming language simultaneously. Our research reveals that mature application programs have an "in-house" programming language, a proprietary language that has the greatest access to the platform's feature-set. Additionally there may be one or more "standard" languages that adequately express expected capabilities. This issue of programming language is non-trivial because different programming languages have their strengths and weaknesses, and the astute trading organization would know to decide this issue proactively, rather than reactively.

From our review of factors of influence in the research literature, we developed two sets of factors. We designate them Contingency Factors and Organizational Factors.

Contingency Factors

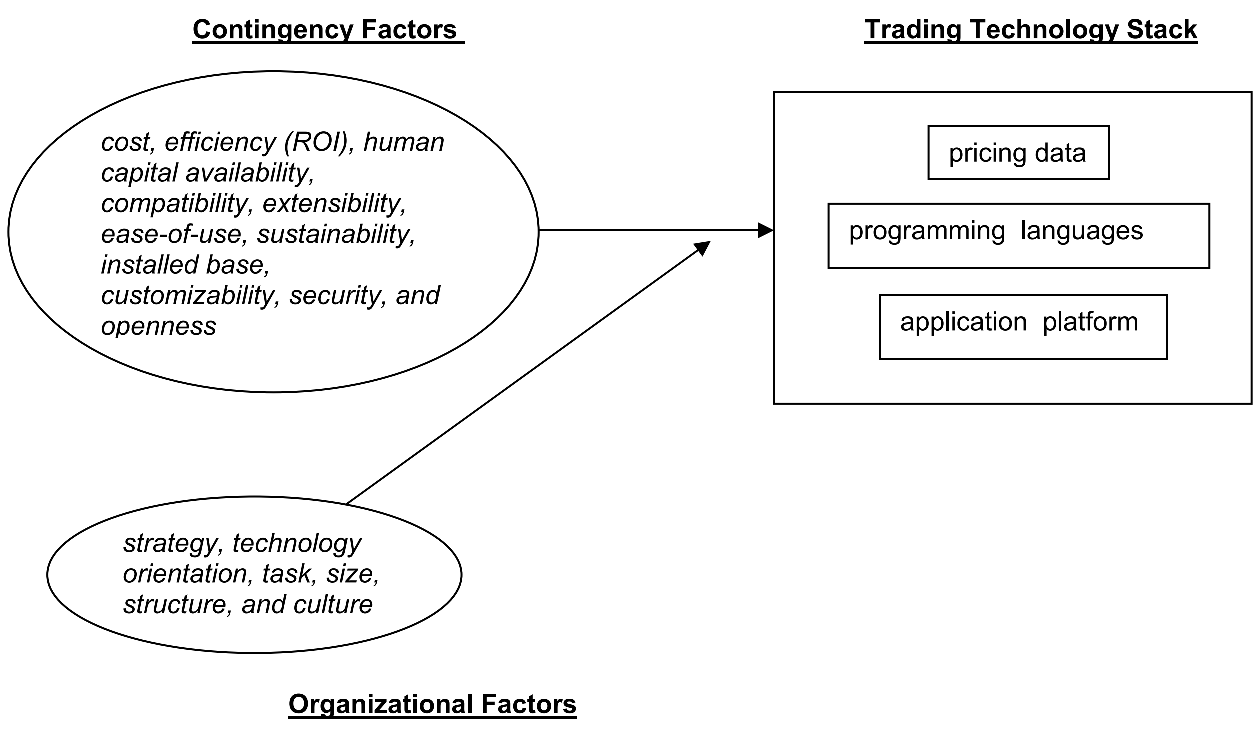
We refer to Contingency Factors as those that are not intrinsically organizationally-driven, but nevertheless are contextually significant. Such factors are:

- costs – whether the trader can afford the fixed and variable costs associated with the technology stack
- efficiency – whether the investment in the technology stack will have a healthy return on investment (ROI)
- human capital availability – whether there is sufficient skill available, and affordable, to work with the programming languages of interest
- compatibility – whether the data and results can be exported from the technology stack and used with existing office productivity applications
- extensibility – whether the technology stack is scalable, whether more features can be added on at a later date (as dictated by affordability), whether the technology vendors provide APIs for enhancing capabilities
- ease-of-use – whether the technology stack is relatively easy to use, and to learn to use
- sustainability – whether the technology is likely to survive the long term
- installed base – whether the technology has widespread acceptance (this is also an indicator of its sustainability)
- customizability – whether traders can create and implement custom indicators
- security – whether the technology can be relied upon to preserve security
- openness – whether the technology makes source code available to the community of users, and whether this community is active in enhancing the original code

Organizational Factors
We refer to Organizational Factors as those that are contextually significant, but that intrinsically originate in the unique characteristics of an organization. Organizational Factors need to be considered simultaneously with Contingency Factors to determine the technology stack. Such factors are:

- strategy – whether the organization has a short or long-term strategy, and how that should be supported
- technology orientation – this determines the suitability of the organization for absorbing new technology
- task – this relates to the complexity of what the organization is trying to achieve. What does it need the technology to do? Provide information, or transactional capabilities, or business intelligence, etc.?
- size – the size of the organization must be considered when considering a technology stack. The size can of course vary from a single trader to a group of traders
- structure – how is the organization structured? If there are multiple traders, how much autonomy do they have? How much do they need?
- culture – does the organization expect to perform tried and tested routines repeatedly, and well? Or is it more adventurous, and expect to create new routines as it goes along?

Figure 1



4. CASE STUDY

Three well-established application platforms are selected. These are called Metastock, Interactive Broker and Ensign. In an earlier section we mentioned that application platforms typically tend to inadequately express all of the expected capabilities. Thus, here we find that while Metastock and Interactive Broker have tremendous capabilities in all other areas, they are outclassed in charting capabilities by Ensign. Meanwhile, while Ensign hits the high water mark in charting, and is a capable platform for creating custom indicators, it does not offer the feature of actual order-taking. Hence, signals from Ensign need to be fed into another system that will undertake actual order-taking.

Each of these platforms uses a proprietary programming language, though it is based-off of a standard language. Hence, these platforms may be manipulated using either their proprietary language, or using the standard language it is based-off of. For example, the Ensign Programming Language is a modification of Pascal Programming Language. The proprietary version offers numerous efficiencies and shortcuts, and in general the trader would be well advised to cultivate the human capital to learn and use the proprietary version. Numerous data vendors provide feeds to input pricing data into each of these systems.

For the trading organization, it can be bewildering to compare these platforms, and to decide on how to configure the technology stack. Our framework helps to identify the key factors the organization needs to consider in making this decision. For example, what are the costs associated with each platform? How compatible, extensible, customizable and open is each one? What are the organization’s needs and affordances in each regard? How does the organization’s strategy figure in this?

5. CONCLUDING REMARKS

With the post-internet information technology revolution, the fortress walls guarding actionable trading information have come crashing down. Today, there is a retail revolution in trading underway, and the trader faces a problem of plenty, with a bewildering array of information technology tools to choose from. We offer a theory-based framework to demystify the technology stack, and the selection decision involved in configuring it. Many avenues of future research are promising. In particular, given the shortage of human capital associated with programming skills, future research should examine the role of this human capital shortage in shaping technology stack configuration choices.

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ASSESSING STUDENTS' READINESS FOR ONLINE INSTRUCTION IN BUSINESS COMMUNICATIONS COURSES

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ABSTRACT

Online learning is a pedagogical method prevalently utilized by colleges and universities to educate students at a distance. Distance education is growing at a rapid rate with 66 percent of post-secondary schools offering distance education courses in 2006-2007, and the number is growing every year (National Center Education Statistics, 2008). This study is a discriminant analysis, designed to assess the online readiness of business communications students and their needs for successful matriculation in the online learning environment using the Readiness for Education at a Distance Indicator (READI) Assessment. The research design of this study was descriptive and included the online collection and analysis of the READI Assessment using undergraduate students enrolled in business communications courses. This study can serve as a catalyst for other distance education programs in business communication to assist students in their transition to online learning.

Keywords: *Online learning, Distance learning, READI Assessment, Online instruction, Student readiness, Distance education, Business communications*

1. INTRODUCTION

Assessing student readiness helps to reveal performance and skill gaps of students in business communications instruction. Student readiness is assessed through a series of tests designed to reveal the various traits necessary for success in an online course. Through these tests, student readiness is determined for online instruction.

Online learning is an emerging technology utilized by colleges and universities to educate students at a distance. It requires students to have excellent time management skills, technical competency and the ability to read and follow instructions. Challenges exist with the need to quantify the use of instructional technology, particularly in business communications courses (Oppenheimer, 2003; Robyler & Knezek, 2003).

Interaction and communication between the teacher and students is an integral part to the success of students in online classes. Immediate feedback from the instructor is an advantage to online learning. Students can access information and interact with fellow students and teachers at any time, without the constraints of class meeting times.

2. LITERATURE REVIEW

With a paradigm shift toward online learning, it is important to explore student readiness. The assessment of student readiness for online instruction is important for online students to meet their goals. The nature of online learning and requirements in the business communications course are important challenges for student success which requires some specific skills and abilities. Assessing student readiness to participate in online instruction validates the level of readiness.

Students that lack the necessary traits for online learners may have difficulty maintaining the course requirements and often fail to submit assignments on time. Student readiness assessments determine if a participant lacks the reading comprehension necessary for carrying out those actions.

As a pedagogical method for online learners, students receive instruction via the Internet, or electronic method such as WebCT© or BlackBoard©. Learning in an online environment requires discipline, time management skills, and self-motivation (Golladay et. Al, 2000; Serwatka, 2003, Smart & Cappel, 2006).

Written communication and technical competency are essential components in student readiness assessment. Students must demonstrate proficiency in software applications and Internet navigation. Students in online courses should possess the skills and abilities necessary to learn in a self-regulatory environment (Murphy & Crosser, 2010).

3. METHODOLOGY

The study employed the use of the Readiness for Education At a Distance Indicator (READI) Assessment. It is an online diagnostic tool that provides students with information regarding their ability to successfully complete online courses. The READI shows students the skills and traits necessary for an online course in the areas of time management, self-discipline, locus of control, technical competency and self-motivation.

Descriptive statistics were used to analyze data for this study. The demographic variables were used to describe the population for the study with respect to the number of respondents, their gender, age, number of online courses taken, technical knowledge and Internet access. An alpha level of .05 was set as the criteria for rejection of the hypotheses.

The population for this study consisted of 200 business students enrolled in business communications courses. A random sample of 120 business students was used for the study. Ninety (90) participants responded to the survey. This represents seventy-five (75) percent.

Discriminant analysis was a procedure used to analyze the data for this study to find relationships among the variables. Content validation and construct validity of items were established for the study. The researchers applied correlation analysis, ANOVA and linear regression to test for the interactions among the variables of the study. Cronbach's alpha was 0.8.

4. FINDINGS

The specific objectives were to explore and describe student readiness for online learning and explore and describe what preparation students feel they need prior to starting an online course.

As revealed by the findings, all respondents were business students. Fifteen were male and seventy-five were female. Ninety-six percent were 21-25 years of age. Four percent were 30 years or more in age. Ninety-two percent had taken at least two online courses previously. Also, the majority of the respondents indicated that they accessed the Internet for at least 10 hours or more per week.

Of the respondents, 85 percent owned a personal computer. All respondents agreed that access to a computer was a necessity in an online course. A significant phi value of .542 was found between access to a computer and technical knowledge at the p value of .002.

Ninety-five percent of the respondents in the personal computer ownership category agreed with the importance of access to a personal computer. An insignificant phi value of .218 was found between the learning activities and online course readiness at the p value of .478.

All the participants that have computers that are Internet accessible agreed with the importance of online course preparedness. A significant phi value of .571 was found between access to the Internet and online course readiness at the p value of .000.

The Canonical Discriminant Function Coefficients computed for the variables are: age of subjects, $r=.602$, access to the Internet, $r=.157$, and technical competency, $r=.242$.

Evaluation of the standardized discriminant function coefficients reveal that Internet access (-.819) had the highest coefficient, followed by technical knowledge (.703) and age of subjects (.685). The correlation coefficient between the variables and the functions reveal that the variable age of subjects had an $r=.531$, Internet access, r=.386, technical knowledge, r-.446, online course experience, r=.330, and gender of students, r=.031.

Age of subjects(r=.531) had the strongest relationship, followed by technical knowledge (r=.446), Internet access (r=.386) online course experience (r=.330) and gender of students (r-.031). Both the Structure Matrix and the Standardized Canonical Discriminant Function Coefficients show that the top three variables include age of subjects, technical knowledge, and Internet access.

4.1 IMPLICATIONS OF THE STUDY

The study will impact the planning and implementation of online courses of institutions of higher learning. The rapid growth in online course enrollment will change the landscape of undergraduate education.

5. CONCLUSION AND RECOMMENDATIONS FOR FUTURE RESEARCH

The findings of this study reported correlations between age of respondents, Internet access and technical knowledge. The significant correlations were not surprising. The researchers assumed the important role Internet access and technical knowledge play on online course readiness.

This study sought to assess the online readiness of business students enrolled in business communications courses from the age and gender, Internet access and technical competency. The discriminant analysis found these four variables would determine the students' readiness for online courses.

RECOMMENDATION FOR FUTURE RESEARCH

Based on the results of this study and previous research, further research should focus on other courses that would be appropriate for online instruction, such as entrepreneurship and accounting. This study could be extended by increasing the sample size as well. Further intervention strategies for students with time management issues and technical competencies necessary for online courses should be explored.

Future research studies could examine the impact of Internet access or technical knowledge on students' readiness for online courses. Specifically, researchers could assess whether this configuration promotes success in online courses. The use of the READI assessment by students to determine their readiness, as compared to students who do not determine their readiness for online instruction, is also another avenue to pursue for further research.

Replicate this study nationally using students in both online and hybrid courses.

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FINANCE EDUCATION AT NORTHWEST: IT'S YOUR OPTION!

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ABSTRACT

Finance as a choice of major is a very dynamic and fluid choice of study that can go from the "traditional" finance education to a more concentrated course of study in banking, real estate, investments or insurance. But what about taking a "traditional" curriculum approach to finance and, instead of adding "concentrations," combine it with different majors in a cross-discipline type of curricular offering? I believe that presents a unique opportunity and does indeed provide for many different options for a student interested not only in "traditional" finance, but perhaps also accounting, computer science or business management.

1. INTRODUCTION

As with most institutions with larger business school enrollments, students are oftentimes afforded the luxury of selecting a business major within the business school, albeit accounting, economics, finance, international business, management or marketing. Such is also the case at Northwest Missouri State University. However, instead of moving toward "concentrations" in certain majors, we afford our students different potential "options" for their major degree programs in accounting (either public or private options) or in finance (we have four such options: financial services, corporate finance, financial management and financial computing) to correspond with the student's career goals and objectives. With such options, it allows for a great deal of flexibility in a student's choice for combining different portions of another major into a comprehensive major that can fit both the student's and their future employer's needs.

The actual impetus behind such a movement came from our work with our Continuous Quality Improvement Program. In our Program, we were to have a number of "assessment" indicators to try to help determine if our curriculum was indeed meeting both student and employer demands regarding the appropriate preparation of our graduates for the workplace. Two of these assessment indicators involved the use of an alumni survey sent to our majors who had graduated within the past five years, and to the employers of our graduated students.

The Alumni Survey asked several questions about how prepared they felt for starting their first job after graduation and their preparation for any other jobs they may have had after that initial taste of the "real world." The Employer Survey was more generic because, due to privacy issues, we could not really obtain specific information about a particular employee (former student). Instead, we asked questions about what attributes and skills that they would want in hiring a new college graduate with a degree in finance. It was then, as a result of these particular survey responses, that the finance faculty began to look at whether simply offering only a "traditional" finance program was really what both students and employers actually needed versus making available several other possible options. Quite honestly, what we found from our surveys was that we were doing a very good job at getting our graduates prepared, but as faculty, we felt like with some curricular changes, we could do an even better job in preparing them for their post-education careers in the dynamic field of finance.

2. THE FINANCE MAJOR AT OTHER INSTITUTIONS

Consequently, based upon our survey results, we began to look at other universities of all sizes and geographic locations to determine if there was a program already in existence that would meet these identified criteria and help us with our curricular reform.

I began by simply doing a comparison of other randomly identified schools to see how we compared. What I found was that most of the schools in the survey compared indeed had a "traditional" finance curriculum consisting of some banking, investments, real estate and insurance courses which combined into a comprehensive business major with other "core" business courses to form the overall curriculum for the finance major. In larger schools, it was also fairly common to find that students could elect some courses into a certain "concentration" for real estate, banking, investments or insurance to meet a student's goals and career objectives or, in some cases at these larger enrollment schools, students could even major in these areas of finance rather than simply add courses as a concentration.

Northwest Missouri State University – Four Finance Options

Even though the comparative analysis was performed with over fifty (50) other institutions that at least offered finance as a major (obviously our sample was far from exhaustive), we found that none of the schools sampled, offered as an option, the combination of two separate majors to form a "finance option" curriculum in conjunction with other areas of business majors, and since we were not large enough to offer separate majors, we looked at what we would be able to provide our students based upon our current resources.

Therefore, in combination with the results of our Alumni and Employer Surveys and the input of the faculty in the areas of Accounting, Computer Science and Business Management, the Finance Faculty developed something that we believe is somewhat unique in higher education, four finance options – three of which have courses based upon classes taken in other major areas.

Following is what we have done in order to provide our finance majors the flexibility that we felt was important to help meet their career goals and objectives, and those of their future employers: (*These courses are in addition to our Common Professional Component that requires the following courses to complete the comprehensive major – Accounting I, Accounting II, Economics I, Economics II, Business Law I, Principles of Marketing, Principles of Management, Algebra, Statistics, Fundamentals of Finance, Production and Operations Management, International Business, Business Communications, Management Information Systems and Organizational Policy and Decision Making.)

Option 1 – Financial Services

This is our "traditional" finance curriculum and offers courses in banking, investments, insurance, tax and an elective for additional courses in investments, real estate or tax.

Figure 1: Financial Services

Required Courses	
51-303 Tax Accounting I	3
53-320 Insurance & Risk	3
53-325 Investment Principles	3
53-327 Intermediate Financial Mgmt	3
52-352 Money, Credit & Banking	3
53-420 Financial Institutions	3
53-421 Selected Cases in Finance	3
Choose 3 hours from electives	
51-304 Tax Accounting II	3
53-326 Investment Mgmt	3
51-408 Managerial Acctg	3
53-422 Real Estate Mgmt	3
Total Major Requirements	**24**

Option 2 – Financial Computing

Here the twelve (12) hours of "core finance" classes, Financial Management, Investment Principles, Financial Institutions and Selected Cases in finance are combined with nine (9) to twelve (12) hours of courses recommended by the faculty of Computer Science and Information Systems, which are designed to provide finance students with additional computer applications, web development and programming that they will need upon graduation.

Figure 2: Financial Computing

Required Courses	
53-325 Investment Principles	3
53-327 Intermediate Financial Mgmt	3
53-420 Financial Institutions	3
53-421 Selected Cases in Finance	3
Required Courses in CS/IS	
44-140 Intro to Prog Using Visual Basic	3
44-211 Spreadsheet Applications	1
44-212 Adv Spreadsheets & Charting	1
44-346 Database Applications	1
44-333 Multimedia & Web Development	3
Approved Electives in Finance or CS/IS	3
Total Major Requirements	**24**

Option 3 – Corporate Finance

This option takes the same aforementioned finance "core" courses and combines with the accounting major courses of Intermediate Accounting, Cost and Advanced Cost Accounting to give the student a much stronger accounting background and understanding for using accounting and finance information for making financial decisions in an organization. (This has also been popular for persons who want to go into teaching business courses at the high school or college level.)

Figure 3: Corporate Finance

Required Courses	
53-325 Investment Principles	3
53-327 Intermediate Financial Mgmt	3
53-420 Financial Institutions	3
53-421 Selected Cases in Finance	3
Required Courses in Accounting	
51-301 Cost Accounting	3
51-306 Intermediate Accounting I	3
51-402 Advanced Cost Accounting	3
Approved Electives in Finance or Acct	3
Total Major Requirements	**24**

Option 4 – Financial Management

A number of our employers commented how they would like to see more students who had an understanding of management and management theory, but also could have the financial background to make the wise and necessary financial decisions so important to a viable organization. Thus, the courses chosen for this option include Human Resource Management, Organizational Theory and Behavior and a possible elective in Management. (This has been popular for students who start out seeking a "business administration" or "general business" major, but decide they want to concentrate on a more definitive area of business such as finance.)

Figure 4: Financial Management

Required Courses in Finance	
53-325 Investment Principles	3
53-327 Intermediate Financial Management	3
53-420 Financial Institutions	3
53-421 Selected Cases in Finance	3
Required Courses in Management	
54-314 Human Resource Management	3
54-316 Org. Behavior & Theory	3
54-318 Entrepreneurship **or** 54-320 Negotiations	3
Approved Elective in Finance or Management	3
Total Major Requirements	**24**

3. CONCLUSION

In today's economy, the ability of our students to be "marketable" by having the educational background and skill sets sought by future employees is critically important. While each University and College certainly have their own Mission, we do all have one thing in common and that is to provide our students with the best possible educational opportunities we can offer.

This paper has highlighted how we at Northwest Missouri State University are working toward accomplishing this very important objective by meeting student and employer demands, while at the same time utilizing the current resources we have in an extremely difficult economic climate for the funding of higher education.

I honestly believe that we have taken the correct approach toward achieving student success and believe that other Colleges and Universities can use our work as a template to evaluate their own finance majors or other programs that will provide their students with a great deal of flexibility in their curriculum. As the title of the paper indicates, from here – "It's Your Option!"

THE BIRTH OF A SYLLABUS: AN INITIATIVE APPROACH

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ABSTRACT

Having as a starting point Biggs's system of alignment, we try to design an effective Managerial Accounting syllabus. As an useful instrument for alignment we used Bloom's Taxonomy. We presented our analytical approach of the syllabus, based on three factors: course objectives, educational experience and evaluation procedure. The paper concludes by presenting the way we build the syllabus. The importance of the research consists in offering our approach in designing a syllabus which contributes to effective learning.

***Keywords**: Syllabus's Design, Teaching, Developing Critical Thinking, Bloom's Taxonomy*

1. INTRODUCTION

In my attempt to design a syllabus for Managerial Accounting course, a compulsory discipline I teach for accounting undergrads, I faced a situation: from where to start in order to design a good syllabus? The first impulse was to look at the model syllabus used in our institution. The model syllabus is structured as following:

The first part of the syllabus refers to information regarding instructors: instructor's name, contact information and consultancy hours.
The second part is represented by the course description, which is structured on course objectives, content of the discipline, competencies gain and methods used in teaching.
The third part is related to references (books and supplementary materials) followed by infrastructure needed, like video projector, software, laptops, and so on.
The fourth part comprises the class schedule, which is a detailed plan of the topics studied each week. For each week the references assigned were specified and the key words of the lecture were indicated besides topic.
The fifth part refers to the evaluation system, where normally the components of the final grade are presented.
In the last part of the syllabus other organizational aspects, like minimum number of attendance, feedback time, and exam structure are presented.

I decided not to pay much attention to its construction and to start fill in the blanks, but I realized the importance of what I was about to do. While I was filling the syllabus I understood that the key point is not to simply write down the information needed in the parts described above. The real challenge, the one that makes a syllabus valuable, is the way the presented parts are linked in between. In order to be able to design a comprehensive syllabus, all the content part have to be aligned. The alignment refers to the way course objectives are connected with the content of the discipline, teaching style, materials used, learning styles, and evaluation system. All these determine in a logical manner the course outcomes. Biggs defines this alignment as a fully–criterion referenced system, where the objectives define what we should teaching; how we should be teaching it; and how we could know how well students have learned it (Biggs, 1999, 64). Beside Biggs, Fink emphasizes the interrelatedness among learning goals, teaching and learning activities and feedback and assessment (Earley M.A., 2007). The foundation of the alignment relies on having the student as a central point of teaching. According to Marton and Booth (1997) instructors should focus their attention not on what they are doing but on what they are teaching, or on what their students are learning.

The alignment of objectives, teaching and evaluation can be done successfully using Bloom taxonomy. Bloom (1956) identified three domains of educational activities: cognitive, affective and psychomotor, known as KSA (Knowledge, Skills and Attitude). In each of the three domains of Bloom's Taxonomy the categories are ordered according to the degree of difficulty. Bloom's Taxonomy is based on the idea that

each category must be mastered before progressing to the following. Therefore, the difficulty level of the categories is increasing as we moving further. The categories are (Overbaugh R.C.):
Level 1. Remembering, level that implies memorizing and recalling.
Level 2. Understanding, level that is focused on student's capacity to interpret, exemplify, classify, summarize infer, compare and explain things, idea or concepts.
Level 3. Applying, level that tests the ability to apply the information received.
Level 4. Analyzing, refers to the student's ability to distinguish between the different parts of a topic.
Level 5. Evaluating, test the ability to justify a stand or decision.
Level 6. Creating, level that tests the ability of creating a new product or point of view.
Analyzing these levels we can understand why Bloom Taxonomy is extremely useful: it helps instructor to embrace the level he/she wants, allowing instructor to place himself during teaching, allowing assigning those problems/exercises /case studies which will match the course objectives and evaluation system.

The objective of this paper is to design the Managerial Accounting syllabus based on the alignment of the course objectives, teaching and outcomes, by using Bloom's Taxonomy.
The importance of the research consists in offering our approach in designing a syllabus which contributes to effective learning.

2. ANALYTICAL APPROACH OF THE SYLLABUS'S DESIGN

In order to emphasize the importance of the rationality and the need of simplification in elaborating a curriculum, Tyler (1949) developed four famous questions which are still relevant today (Kizlik, 2009):
1. What educational purposes should the school seek to attain?
2. What educational experiences can be provided that are likely to attain these purposes?
3. How can these educational experiences be effectively organized?
4. How can we determine whether these purposes are being attained?
Even these questions refer to a curriculum design, but they can be extended successfully in creating a syllabus.

Relying on Biggs's model and using the above questions in order to structure our work, we tried to design the Managerial Accounting syllabus based on the following steps:
- The first step in designing the syllabus was to define the educational purposes or, so called general course objectives;
- The second step was to explain our path we used to reach our objectives: educational experience;
- The last step is to design the evaluation procedure based on the course's structure and students' experience in the classroom.

1.1. Course Objectives
Our general course objectives are based on two pillars: critical thinking and Bloom's taxonomy. *Critical thinking*, social responsibility, reflective judgment, and evidence based reasoning…are the most enduring goals of a first-rate liberal education (Clayton, 2003). Research shows that many college graduates are falling short in reaching these goals [Clayton (2003), Bok (2006). According to Minnich (2003:20) if people think this mean that they are more likely to question than to assert, inclined to listen to many sides, capable of making sensitive distinctions that hold differences in play rather than dividing in order to exclude, and desirous of persuading others rather than reducing them to silence by refuting them. Critical thinking involves eight skills: 1). ask questions, 2). define the problem, 3). examine the evidence, 4). analyze assumption, 5). avoid emotional reasoning, 6). don't oversimplify, 7). consider other interpretations and 8). tolerate uncertainty (Lipps, 2004: 117).
Improving these skills is not possible to be achieved without understanding the context of the topic and further identifying the potential solutions and choosing the most appropriate one. Therefore, the way we've considered appropriate to help our students in developing the above-mentioned skills was to use Bloom's Taxonomy to build our syllabus.
Bloom's Taxonomy has as the lowest point remember level, continuing with understanding, applying, analyzing, evaluating levels and has creating level as the highest one. Our scope is to facilitate students to reach the highest level of Blooms' Taxonomy but this can be done only if student went over the

previous levels. From the syllabus' designing perspective, Bloom's Taxonomy represents a useful tool which helps in "calibrating" the course and structuring teaching.

1.2. Educational Experiences

We define educational experiences as the teaching and learning activities. Two very successful teaching methods that both engage students at a high level of cognitive activity and align objectives, teaching and assessment are problem-based learning and the learning portofolio (Biggs, 1999: 70). In a direct relation with these are: the way classes and tutorials were organized schedule and professors expectation.

In succession, tutorials preceded classes. Both tutorials and classes presume that student read the theory and solve the assigned problems before tutorials. Therefore, tutorials are meant to offer a place for discussion the materials read by them individually. At the beginning of tutorial theoretical aspects are discussed with students. Discussion's role is both to clarify notions and terms and to check if students read the chapter assigned. If the chapter was read, we expected students to pass successfully the first two levels of Bloom's Taxonomy: remember and understand. In the second part of the tutorial, meaning about 70% of the tutorial time, we discuss problems assigned for the current week. More exactly, we discussed different approach of solving the problems, methodology and how to interpret the results calculated.

The class is schedule in the last day of the week. Class's participation is not mandatory, neither the tutorials. For each week a Harvard Business School case study is asked to be analyzed. Each case study was carefully chosen to be representative for the chapter students have to prepare for the current week.

Working with case study tests students' ability to apply, analyze, evaluate, and create their own point of view.

1.3. Evaluation Procedure

Since the whole syllabus was designed based on Bloom' Taxonomy, the outcomes have to be measured using the same methodology. To determine if general objectives, implicit the specific ones, are meet by students we designed the evaluation procedure based on the course's structure and students' experience in the classroom.

Students are evaluated both for tutorials and class participation. At the end of the semester they have to take the final exam, in written form. In order to determine the subject for the exam, we split the content of the discipline into 4 major parts. For each part we designed a set of questions and problems based on Bloom's levels, from the first one (remember) to the fifth one (evaluating). Therefore, the exam paper comprises questions or problems from all of the 4 major parts of the discipline. In this way, all the Managerial Accounting area covered within this course is tested. Beside these 16 questions, a short case study is assigned to test the most important level of Bloom's Taxonomy: the creation phase.

The weight each level received is presented as follows:

Table 1: Weight Level Received

Remember	0.25 points/part
Understand	0.375 points /part
Apply	0.625 points /part
Analyze	0.625 points /part
Evaluate	0.375 points /part
Create	1 point

3. BUILDING THE SYLLABUS

We structured the Managerial accounting syllabus into six major parts: general course description, course objectives, recommended readings, how to learn efficiently, how to communicate and evaluation system. The syllabus was written in a simple way and addressed directly to students.

The curriculum starts with a **general course description**, whose scope is to help students to become familiar with the main areas that are to be examined.

The world of business is changing dramatically. As a result, the role of managerial accounting is very different than it was even a decade ago. Today, managerial accountants serve as internal business consultants, working side-by-side in cross-functional teams with managers from all areas of the organization. For a thorough understanding of managerial accounting, students should not only be able to produce accounting information but also to understand how managers are likely to use and react to the information, and how as successful future managers they should, themselves, interpret it.

The course begins with a presentation of the changing role of the managerial accounting in today's business environment. The product costing and the process of cost accumulation in a batch production environment will be studied in order to understand the traditional way of calculating costs, which is still used widely. On the opposite pole is Activity Based Costing method (ABC) whose qualities and superiority was proven in certain circumstances if compared to the traditional method.

Since we already know how to calculate costs, it's time to move further to understand, analyze and evaluate the relation between costs, production and sales volume, and income level.

Planning is one of the most challenging activities in managerial accounting because it involves estimation and correlation between a company's departments, or divisions. As a consequence, we will learn to work with budgets and standard costs and discover how these tools can help us run our business.

Other issues we shall cover in managerial accounting are transfer pricing and relevant costs, which are also helpful in the decision making process.

In my opinion, this discipline is neither difficult nor easy. It doesn't have many rules to follow, which is great because rules can restrict our capacity to create or innovate. Rather, it involves logic and argumentation. Since a manager has to be open-minded, this discipline will fit perfectly with your professional goals. *(Extras from the Syllabus)*

The **course aim** follows the general course description and state the main goal of the course: to acquaint students with the fundamentals tools of Managerial accounting. ***General course objectives*** are presented further. At the end of this course students will:
- understand the core issues of Managerial accounting;
- be able to use properly the most important tools and to apply important management and accounting methods combined;
- be able to analyze methods in order to find the most suitable one for the given situation;
- be able to evaluate different situations based on facts or suppositions, and
- to build, formulate and write an opinion about the analyzed case.

Recommended readings consist in a well-known text book and Harvard Business School case studies. The curriculum offers detailed information regarding how to buy them and different forms of book available for sale: hardcopy, electronic version, or rights to access the book for a limited period of time. Besides these, students can access more resources like PowerPoint Presentations, Narrated Slides and Standard and Enhanced Quizzes from the book publisher's website for free.
The diversity of learning materials offered to students is motivated by the willingness to offer students appropriate types of materials which fit their learning style: visual, auditory or kinesthetic.
Based on the pillars mentioned before, we developed **specific course objectives** for each main topic of the discipline. Secondary objectives were built based on the general ones and designed carefully for each chapter.

Course content part details the topics and chapters covered each week. Moreover, it specifies the chapters needed to be read, exercises, problems and HBS case study assigned for each week. Exercises, problems and case studies that are to be graded were specified separately in the curriculum, in order to eliminate any possible confusion.
Course content is organized as follows:

Table 2: Course Content

Week	Period	Readings	Exercises & Problems	Case Assignment
…				
3	03/08-03/14	Chapter 3: Product Costing and cost accumulation in a batch production environment	3-28, 3-56	Camelback Communication (HBS)
…				
7	04/05-04/11	Chapter 9: Profit planning, Activity-Based Budgeting, and E-Budgeting	9-25, 9-31	Komatsu Ltd. (B); Profit Planning and Product Costing (HBS)
….				

(Extras from the Syllabus)

Course set-up implies the way classes, tutorials, individual and group out-of-school activities of students are organized. Courses ask over for reading the chapter assigned, solving exercises and problems and case study analysis. Each week, a tutorial and a class are held. In tutorials, teaching assistant discuss with students exercises and problems assigned for the week and if needed, sensitive theoretical parts of the chapter assigned. Subsequent to tutorials are classes, where case studies are analyzed using Socratic method. Tutorials and classes are not compulsory for students to attend. Moreover, textbooks are not lectured.

How to learn efficiently is a part of the syllabus that we considered mandatory to present since our teaching approach is not very common in our faculty. Teaching case studies and effective lecturing are teaching methods our students are not familiar with. Moreover, since learning is a process that takes time, improving efficiency is needed in order to maximize student's learning outcome. That is why our suggestions regarding your learning process were referring to: how to read the textbook in order to understand the topic and how to analyze a case study.

> Learning is a process that takes time so we have to do it efficiently in order to maximize your learning outcome. That is why my suggestions regarding your learning process are presented further.
>
> 1. Reading the textbook
>
> Reading the textbook has to be done in such a way that encourages you to understand the topic and not to memorize it. Memorizing doesn't create value but logical thinking does this easily.
>
> I recommend you to read the chapters as you read a story. Be relaxed and try to understand what you are reading. After you finish the first reading you will read it again for the second time. In my opinion, first reading makes you understand the terms and topic but second reading makes you understand the terms in the context of the given topic, having in this way a better view over the theme. So, during your second reading, underline important words for you with different colors (it really helps in remembering) or make notes or comments on the text if you want. If you do so, when you will re-open the book, your photographic memory will remember you what you have read.
>
> The efficiency of reading should be reflected in your capacity to be able to explain with your own words the concepts/tools/instruments/methods described within the chapter. Consequently, after your second reading, try to test yourself by explaining the terms you just read. Every week I will post on Blackboard, in Discussions area a set of questions that might help you test yourself if you have a good understanding over the terms and notions presented in the textbook. I will not grade your answers but I will send you my feedback related to your answer.

2. Solving problems

Each week I will ask you to solve at most 3 exercises or problems. The role of solving problems is to:
1) Test your capacity to apply the concepts/methods/techniques learned,
2) Analyze given situations,

I recommend you to solve the problems in Excel. At the end of this syllabus, in Annex B is presented a model exercise/problem solving which helps you to understand how to build your spreadsheet. If you are not familiar in working with Excel, supplementary readings are provided in the same Annex B.

3. Case studies analysis

After reading the textbook's assigned chapters and solving the problems recommended, you should start to tackle the week's case study. In Annex A of the syllabus, it is presented the way you can access the needed case studies from Harvard Business School Publishing. The case studies were carefully chosen in order to be relevant for the chapters they were attached to.
Probably many of you are already familiar with learning using case studies and know how to deal with them. For those of you who have never learned with case studies I would like to recommend an excellent book published by HBP written by William Ellet in 2007 *"Case Study Handbook: How to Read, Discuss, and Write Persuasively About Cases"*. For $25 you get the best book on this topic.

A total of ten case studies will be analyzed within this course. One of them will be subject to your analysis every week. I expect you to spend from six to ten hours on each case study.
Each week you will be assigned a case study from the set of cases made available to you at the Harvard Business School Publishing website. The analysis of the cases is a critically important part of the course. It provides an opportunity to use all your prior learning (if any), experience, intellectual faculties and business knowledge. You will find out that the cases present real-world situations, and because of this they required the ability to see the whole picture in order to solve a company's situation.

Therefore each week you will be assigned to play the analyst role with respect to each case.

What should an analyst do? If your job is to be the analyst, you will put yourself in the shoes of the decision maker and do the following: identify the issue(s) to be decided, identify the criterion (or criteria) on which you believe a decision should be based, then sift the data for relevance to that criterion, and prepare a clear set of statements or exhibits which evaluate practical alternatives and justify a decision. Finally, you will post your decision together with the files that helped you reached the decision (Excel spreadsheets, tables, graphs, Word file and so on) in the discussion area, as it will be indicated in the weekly assignments. *(Extras from the Syllabus)*

The last part of the curriculum is dedicated to the **evaluation system.** The final grade comprises three parts:
- student's participation in tutorials (30% of the final grade),
- student's participation in classes (10% of the final grade),
- final exam (60% of the final grade).

4. CONCLUSIONS

Our aim is to build an effective syllabus in order to offer students the possibility to learn what they will really need in practice. Besides this, taking into account the model and instruments used in the present study, we can strength our students' position by developing their communication skills, ability to work with others and more important their critical thinking. The syllabus we created here is just the first step in our timid attempt. Even so, it represents a valuable tool which can helps instructors in organizing their course.

ACKNOWLEDGEMENTS

This work was supported by CNCSIS –UEFISCSU, project number PNII – IDEI 897/2476/2008 *Study regarding the development process of the Romanian educational Accounting system toward a global economic environment*.

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A STUDY ON THE RELATIONSHIP BETWEEN TALENT MANAGEMENT AND ORGANIZATIONAL SUCCESS

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ABSTRACT

This paper explores the relationship between talent management and organizational success. The author uses a private college from China as a case study. The research hypothesis is that there is a positive relationship between talent management and organizational success. Hence, if an organizational needs to improve their performance, it needs a good talent management strategy.

Keywords: Talent Management, Organizational Success, Chinese Education

1. INTRODUCTION

Mathis and Jackson (2008, p6) states that "Talent management" is an important part of Human Resource (HR) activities. HR is a core department in most companies. According to Mathis and Jackson (2008, p 292,) talent management helps to create an "organizational strategy." Moreover, Mathis and Jackson also point out several important results of a talent management strategy, such as putting the right people in the right places, developing a goal, understanding the "organizational culture", and creating the link between talent and organization (2008, p292). However, most research has focused on commercial firms and as result there is not much research exploring the relationship between talent management and organizational success in higher education area. The focus of this paper is to explore the relationship between talent management and organization in higher education. The research question is how does a specific organization use talent management as a strategy for organizational success. The paper's hypothesis is if a organization could develop its skilled workforce, especially its most talented performers, the organization should be more successful. The study first reviews and explains the importance of talent management in the review of literature. Then an exploratory study is done focusing on a single institution to determine the relationship between talent management and organizational success. The case study is then used to explore the relationship between talent management and organizational success in education. Finally, the recommendations are made for talent management strategies that will increase the success of the institution.

2. LITERATURE REVIEW

Lockwood (2006) states that talent management is a "key concern" of human resource as skilled people join the organization. If the organization would like to develop a strategic plan for different professional fields, HR will need to manage different talents from different departments. Lockwood suggested the formation of a special team to organize these talents. Mathis and Jackson (2008, p7) also identified "five components" of talent management: Orientation, Training, HR development, Career planning and Performance management. Moreover, they noted a talent management plan could be divided into HR and financial programs. If both of the two programs are successful, the team will complete its mission easier. Mathis and Jackson (2008, p294) emphasized that "effective talent management" needs to get the "right people," have the "right time," make the "right place," create the "right capabilities." They estimate 40% of companies actually apply a form of "talent management information system" in their organizations. These include job training, providing planning replacement chart or online performance appraisal system (Mathis and Jackson, 2008, p293). Electronic platforms are a new tool to improve the talent management.

Moreover, if a company has effective talent management, it is more likely to put workers in the right place, develop the right goal, provide an understanding of the "organizational culture," and create a link between talent and organization success (Mathis and Jackson, 2008, p293). They indicate that talent management is a form of operations strategy for organization. It is important because if a company is able to bring out the potential of its talent it increases good management practices and the likelihood of success. Hence, how to manage its talent is important for a company. Based on this it appears that talent management is key to the success if core business components. Basically, If a company cannot manage its talent, the company cannot have good performance.

The U.S Census Bureau (2006) reports that talent management is an important, long-term project to make the successful organization. Management of talent includes an organizational framework, organizational plan, financial capability and operations management. According to Mathis and Jackson, it is necessary for HR department to develop plans to manage talent (2008, p315) based on the following elements: 1, "Organize strategic talent plans". 2 "Make sure succession planning". 3, Use the electronic system. 4, Explain the plan. 5, Make the bridge between talent and organization. 6 review and redo the plan.

According to Mathis and Jackson, successful HR program must conform to three conditions, which are "make or buy talent", "capabilities' area" and "electronic planning." After understanding the link between talent management and organizational success, the company should improve the appropriate talent in the company, know the need of talents and reform the image of company to make it appeal to the talent. Mathis and Jackson also indicated that an organization which focuses on talent management, must possess five components: "customer relations capabilities", "external/industry contacts", "community involvement", "community involvement" and "management capabilities". If a company focuses on human resource management, the company will increase its probability of success (2008, p.318). In this case, the author uses the private college (Beijing Huaxia Management College) in China as a case study because it uses job design as a basis for improving employee performance.

3. ANALYZINIG A CASE

Mathis and Jackson (2008, p242) agree that the researchers should use case studies to identify the relationship between talent management and organizational success. In this research, a private college in China, Beijing is used as the case. The research is based on "Beijing Huaxia Management College."
This first part will discuss how "Beijing Huaxia Management college" uses talent management. In China, there is a committee from a private foundation used to manage the people who work in the college. Since it is a private college it needs to register with the China Education Department, a government agency. There foundation board has four committees: the Teaching committee, the Operations management committee, the Student committee and the Communist party committee. Also each operations department has its own bureaus. The Personnel bureau is included in Teaching department. The college also has a working process for talent management. The foundation board is able to do job design with each bureau. The following parts will show the process of job design at the college.

First, the Personnel bureau needs to determine the rules and budget of personnel, including salary and any bonuses in the following years. When each department hires new talent, they also need to make a report to foundation committee. Secondly, the department will post the message in its newspaper and website, the applicant then needs to finish a form, and then the applicant is granted an interview from the Personnel bureau, then the Personnel bureau will recommend the different applicants to each department. They will renew the ID card (name list) of the college for their colleagues. Next, in China and Taiwan, if the college hires a new teacher, the school has to give a report to the education department of their teaching qualifications. Next, the Personnel bureau will evaluate their working performance. If the individuals do not do meet their working goals, they are not allowed to get their bonus.

The next section explains how the college uses talent management to create organizational success. The private college has two basic goals, the first is to be recognized by China government and the second is to be the best private college in Beijing. The college has already achieved recognition from the China government so their next goal is to be recognized as the best private college in Beijing. In order to achieve this goal, the college uses Internet, information system and job training to improve the quality of its talent. First, the college has partners which can contact with college through its E-platform, including its official website, and discussion platform. The college can exchange teaching talent with its partners through the system. Secondly, the college can advertise for new talent through Beijing's newspapers and its official website. Qualified Beijing residents now know the college needs talent, and apply to the college. The college then uses the format working process to manage them. Third, the college focuses on the student and has a student committee in the school. This gives an opportunity for students with a low grade from unit-entrance test to improve their skills to be admitted. Fourth, the college can ask teachers to provide job training for other personal which will improve their working performance. The college also works to attract talent from other organization to build the quality of their workforce. Finally, jobs are matched with different leadership style and social culture. For example, the China socialism party organizes a committee in school to improve the personnel's leadership skills and "united spirit". This illustrates how this private college uses job design and a name list to manage its talents and match them to organizational goals to generate organization success.

4. CONCLUSION

In conclusion, the study shows that talent management and successful organization appears to have a positive relationship. Talent management has been shown to be important for this private college. The college uses it to improve its performance and success.

The following recommendations would help the college improve its talent management. First, the college needs to improve their electronic information system by providing it with more functions. For example, the staff can do more work online. Moreover, the private college should use email more effectively as the primary means of contact something that is not used at the moment. Second, the school needs to work harder to improve their academic quality of this by having the foundation raise additional funding to hire higher quality talent. Although the foundation is valuable its not enough and the school needs to focus on get more sponsors as soon as possible.

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STAGE OF DEVELOPMENT ON CSR ENVIRONMENTAL POLICY: RESEARCH ON THE ROMANIAN MARKET

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ABSTRACT

Debates on corporate social responsibility (CSR) have grown in frequency in the last period of time and companies have been challenged to respond to various social requirements, as a consequence of a more dynamic environment. Changes in the global economy, in demographic, technological and social realities became visible at the level of consumers behavior, who now evaluate companies performance both from an economic and an ethical perspective. Therefore, companies have to ensure a high quality program that gives back to the society in which they produce and sell their products. The aim of the present paper is to evaluate the CSR environmental policy within the companies activating on the Romanian market, thus identifying the special features of these activities and their implications on the environment.

Keywords*: corporate social responsibility, environment, quantitative research, Romanian companies*

1. INTRODUCTION

Debates on corporate social responsibility (CSR) have grown in frequency in the last period of time and companies have been challenged to respond to various social requirements, as a consequence of a more dynamic environment. Changes in the global economy, in demographic, technological and social realities became visible at the level of consumers behavior, who now evaluate companies performance both from an economic and an ethical perspective. Consumers, non-governmental organizations, mass media and other social groups have increasingly penalized irresponsible corporate activities, such as work abuses or influence on pollution and environmental damages. According to the European Union, one of the main factors that demonstrate the need of a CSR orientation is the increased concern about the damage caused by economic activity to the environment (European Commission, 2001). In consequence, companies need to act by taking into account not only the interests of their owners, but also of others groups that may have a specific influence on the company ability to achieve its market objectives. In the management and marketing theory, these individuals and groups who depend on the organization to fulfill their own goals and on whom, in turn, the organization depends, are called stakeholders (Johnson et al, 2008, p. 132).

Strategically and systematically integrated into core business operations, CSR helps companies to better address reputation risks, attract investors, improve relations with stakeholders and become more competitive in mature markets (Udovički, 2007). The economic impact of CSR can be direct or indirect (European Commission, 2001). Positive effects may result from a favorable working environment, which leads to a more committed and productive workforce or from efficient use of natural resources. Indirect effects derive from the growing attention of consumers and investors, which translates into an increase company visibility at market level.The aim of the present paper is to evaluate the CSR environmental policy within the companies activating on the Romanian market, therefore identifying the special features of these activities and their implications on the environment.

2. LITERATURE REVIEW

The concept of corporate social responsibility has a history of few decades. Many authors have identified the emergence of a CSR theory with the publication of Bowen's book called "Social Responsibilities of the

Businessman" in 1953. He defined corporate social responsibility as "the obligation of businessmen to pursue those policies, to make those decisions, or to follow those lines of actions which are desirable in terms of the objectives and values of our society" (Bowen in Carroll, 1999). Few years later, the concept was further developed by other specialist including Keith Davis (1960), William C. Frederick (1960), Joseph W. McGuire (1963), Clarence C. Walton (1967), George Steiner (1971) and many others.

One of the most cited scientific contributions to the development of CSR literature belongs to Archie B. Carroll, who proposed a four-part definition of CSR. According to the author, "the social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has on organizations at a given point in time" (Carroll, 1979). Economic responsibility highlights the principal goal of the firm to produce goods desired by the community and sell them at a profit. According to the legal dimension, companies should operate by complying with regulations and rules of the actual legal framework and their products should meet at least the minimal requirements imposed by the state or local governments. Ethical responsibility refers to those standards and norms that show a real concern towards the moral rights of consumers, employees and other stakeholders. The discretionary or the philanthropic responsibility of the company, promote the idea that companies have to behave as good corporate citizens, taking voluntary decisions and actions that contribute to the well-being of society. In a large sense, it implies monetary contributions or charitable activities within the local community and also developing programs which support a social cause (Anghel et al, 2009).

Concerns regarding CSR definition have continued until recent times, due to the difficulties to synthesize the principles of the field. Efforts in this direction were realized not only in the economic literature but also in practice. European Union, World Bank, OECD and other international institutions are starting to promote CSR as a good business conduct (Filip et al, 2008).

One of the main dimensions highlighted both in CSR literature and practice is the corporate responsibility towards the environment. This CSR perspective is demonstrated by various definitions which focus on 'a cleaner environment', 'environmental stewardship' or 'environmental concerns in business operations' (Dahlsrud, 2006). From this perspective, Van Marrewijk (2001) notes that "in general, corporate sustainability and CSR refer to company activities, voluntary by definition, demonstrating the inclusion of social and environmental concerns in business operations and in interactions with stakeholders". A similar point of view is adopted by the authors of the book "Environmental protection and the social responsibility of firms" (Bruce et al, 2005).

Environmental concerns are also presented in the European Union definition on CSR. In the "Green Paper" is mentioned that "in general, reducing the consumption of resources or reducing polluting emissions and waste can reduce environmental impact. It can also be good for the business by reducing energy and waste disposal bills and lowering input and de-pollution costs. Individual companies have found that less use can lead to increased profitability and competitiveness" (European Commission, 2001).Consistent with CSR principals highlighted above, the present research focuses on Romanian companies CSR experiences and their environmental policies.

3. RESEARCH METHODOLOGY

As shown above, the society is increasingly aware of the need of CSR activities, especially the ones concerning environment protection. Thus, companies have to ensure a high quality program that gives back to the society in which they produce and sell their products. Considering the economic crisis, managers had to make a selection of all the CSR activities, mostly because of the financial status.
Therefore, this paper presents the results of a quantitative research concerning the CSR activities for the environment protection within the companies activating on the Romanian marketing.

Among the major objectives of the research there are the following: the importance of environment protection within the CSR activities, the company's impact on the environment, the implemented environment protection activities and their frequency, the reasons of environment protection implication, the implication of the CSR environment protection activities within company's relationship with its stakeholders, the external communication about environment protection, and the foresight for the CSR environment protection activities.

In order to obtain representative information for the Romanian market, a survey was conducted within 322 companies, with a ±5% margin of error and a 95% confidence coefficient. The starting hypothesis of this research was that only 30% of the companies activating on the Romanian market develop a CSR environment protection program.

For this research we used the stratified probabilistic sampling, with a set of sampling criteria by which the companies were selected: form of capital investment (domestic companies 70% and foreign 30%) and sales figure (less than 50,000 Euro 36%, between 50,000 and 500,000 Euro 28% and more than 500,000 Euro 26%). The research was conducted using a structured questionnaire with 35 items, for which the respondents were top level managers for the selected organizations.

4. RESEARCH RESULTS

The research results were analyzed using the SPSS program and will be presented in correlation with the established objectives for this research. The main purpose is to highlight the level of importance for the CSR environment protection activities on the Romanian market, considering the present context of the economic crisis.

The first objective was referring to ***the importance that companies give to the environment protection*** within their strategies. If on developed markets, the CSR strategy is one of the external communication elements through which companies build their reputation, on the Romanian market the "environment protection" classified 8th in a top 10 most important roles of a company. As expected, the most important role is to obtain profit, followed by a series of CSR components such as contribution to the society progress, creating jobs, and respecting the ethical standards.

When comparing the main activities included in the CSR strategy, environment protection earned the 5th place, as shown in the table below.

TABLE NO 1. THE IMPORTANCE OF ENVIRONMENT PROTECTION WITHIN THE CSR STRATEGY

CSR programs	Place of importance
Employees' development	1
Fight against discrimination	2
Cooperation with the authorities	3
Education	4
Environment protection	5
Implication in resolving Health problems	6
Implication in social causes	7
Art and culture	8

Using the Chi square statistical test, we identified a correlation between this objective and the characteristics of the respondents (form of capital investment and sales figure). The environment protection is not so important for domestic companies (placing 6th within the programs from the CSR strategy), while for the foreign companies this activity is in second place, being surpassed only by employees' development. The correlation with the sales figure showed that the importance of environment protection increases with the turnover.

Although most companies placed the importance of environment protection 4th or 5th within the CSR programs, when asked about the programs implemented until now, the respondents placed environment protection second after employees' development, 42% of them declaring that they used it in the last three years.

The second objective of the research is ***the company's impact on the environment***. Respondents were asked how big an impact does their company have on the environment, on a scale from 1 to 5, where 5 means "very high impact". Most companies participating to the research (75%) declared that they have a very low impact on the environment, therefore obtaining an average score of 1.33, which means that overall the companies activating on the Romanian market have a low impact on the environment.
In relation to this objective, the respondents were asked to present their agreement or disagreement regarding a set of statements about their impact on the environment, as shown in Table no 2, on a scale from 2 (total agreement) to – 2 (total disagreement).

TABLE NO 2. THE LEVEL OF AGREEMENT WITH STATEMENTS REGARDING THE COMPANY'S IMPACT ON ENVIRONMENT

Statement	Level of agreement
Our products don't affect the environment during the manufacture process	1.47
Our products don't affect the environment during the consumption	1.50
Our products don't affect the environment after the consumption	1.22
Our products are ones of the most ecological on the market	0.45
Our auto fleet doesn't pollute the environment	– 0.15
Our company makes efforts in reducing energy consumption	0.97

Comparing the impact of their products (during the manufacture process, the consumption and afterwards), the respondents declared a higher impact after consumption, which brings the discussion to the packaging problem. This is one of the most pressing challenges of the century, companies trying to ensure a higher level of protection for the environment by designing bio degradable packaging.

The only negative item from Table no 2 is the 5th statement ("Our auto fleet doesn't pollute the environment"), recording an average level on – 0.15, which can be translated as a medium impact on the environment.

The third research objective evaluates ***the frequency of environment protection activities*** conducted by the companies from the Romanian market. On a scale from 1 (low frequency) to 3 (high frequency), the average score was 1.43, which indicates a relatively low frequency.
This frequency is influenced by the company's characteristics, therefore we used the Chi square statistical test for correlation with form of capital investment and sales figure. In the "frequency – form of capital investment" relation, the value of the correlation coefficient (0.32) showed that the form of capital has a medium influence on the frequency of implementing environment protection activities. The respondents' distribution for this correlation is presented in Table no 3.

TABLE NO 3. THE INFLUENCE OF FORM OF CAPITAL INVESTMENT ON THE FREQUENCY OF IMPLEMENTING ENVIRONMENT PROTECTION ACTIVITIES (%)

Form of capital investment	Frequency of implementing environment protection activities		
	Low	***Medium***	***High***
Domestic	79.2	12.5	8.3
Foreign	45.5	36.4	18.2

The relation between sales figure and frequency of implementing environment protection activities was also tested with Chi square, obtaining a correlation coefficient of 0.47, which can be translated as a medium influence of the sales figure (the higher the turnover, the higher the frequency).

The companies participating to this research were asked to talk about ***the implemented programs of environment protection***. Table no 4 presents the programs mentioned by respondents and we can see that most items refer to reducing consumption.

TABLE NO 4. PERCENTAGE OF COMPANIES USING ENVIRONMENT PROTECTION PROGRAMS

Environment protection programs	Percent of respondents
Reducing paper consumption	65.7
Using economic bulbs for company's lighting	54.3
Taking care of the green space around the company's headquarters	37.1
Recycling paper, plastic and metal	37.1

The fourth objective of this research refers to ***the reasons of environment protection implication***. As shown in Table no 5, the most frequent answers referred to morale obligation towards the society and company's reputation improvement. A particular reason is the one regarding the legislation that force some companies (depending on their domain of activity) to conduct a series of environment protection activities.

TABLE NO 5. REASONS OF ENVIRONMENT PROTECTION IMPLICATION

Reasons	Percentage of respondents
Morale obligation towards the society	61.1
Company's reputation improvement	52.8
Legislation	36.1
It is a part of our marketing program	30.6
It is our competitive advantage	22.2
Retains the best employees	22.2
It is a constraint from the parent company	5.6
It is a reaction to the competitors similar activities	2.8
Tax deductions	2.8

Many companies that took part in this research declared that they could have made much more for the environment, but there are some impediments that kept them from doing so. The most mentioned impediments were lack of financial potential (58.3% of respondents) and lack of time (33.3%).

For the objective referring to ***the implication of the CSR environment protection activities within company's relationship with its stakeholders***, the companies were asked if they imposed environment protection standards for their suppliers. 35% of respondents answered affirmatively to this question. Additionally, the participants to this research were asked to talk about their implication in sustaining the environment protection activities developed by other entities. Unfortunately, most companies (64%) rarely implicate themselves in the environment protection activities developed by other, only 3% declaring a high frequency of implication in such activities.

As shown above, a main reason for which companies develop CSR activities related to environment protection is to improve company's reputation. It is imperative then to inform the customers and the other stakeholders about these programs. Therefore the next objective of this research referred to ***the external communication about environment protection***.

The most credible instrument that shows a company dedication in respecting the environment is an international certification standard, such as ISO 14001. Only 17% of all companies participating to this research have such a certification.

Another instrument that can present the environment protection programs developed by the company is the Environmental Annual Report. Among the 322 companies that participated to the research, only 33% have such a report. Moreover, there is a significant difference between the domestic and foreign companies when speaking about this report (as shown in Table no 6).

TABLE NO 6. THE PERCENTAGE OF COMPANIES HAVING AN ENVIRONMENTAL ANNUAL REPORT

Form of capital investment	Environmental Annual Report	
	Have	*Don't have*
Domestic	28.0	72.0
Foreign	45.5	54.5

For customers, another element that brings trust and confidence in the company is the number of organic/bio products. The research results showed that ¼ of companies have such products, promoting them mostly through the label, with a sign of quality guarantee offered by a recognized organization from the same field.

The last objective of this research targets ***the foresight for the CSR environment protection activities***. As you can see in Table no 7, most companies responded affirmatively to this question. However, it exists a slightly difference between companies based on the form of capital investment: the foreign organizations have a higher percentage of intention to increase the CSR activities in the following years.

TABLE NO 7. PERCENTAGE OF COMPANIES THAT INTEND TO INCREASE CSR ACTIVITIES

Form of capital investment	Intend to increase CSR activities	
	Yes	*No*
Domestic	76.0	24.0
Foreign	90.9	9.1
Total	80.6	19.4

When asked which domains they intend to develop in the following years, environment protection was mentioned by 55% of respondents, which leads us to believe that this area of corporate social responsibility can have a bright future on the Romanian market, if made with a strategic and market-oriented thinking.

5. CONCLUSIONS

One of the main dimensions highlighted both in CSR literature and practice is the corporate responsibility towards the environment. The society is increasingly aware of the need of CSR activities, especially the ones concerning environment protection. Thus, companies have to ensure a high quality program that gives back to the society in which they produce and sell their products. Considering the economic crisis, managers had to make a selection of all the CSR activities, mostly because of the financial status.

The research presented in this paper has reveled a series of characteristics for the Romanian market, such as: the CSR environment protection has a less important role in the company's strategy; the companies activating on the Romanian market declared to have a low impact on the environment; comparing the impact of their products (during the manufacture process, the consumption and afterwards), the companies declared a higher impact after consumption, which brings the discussion to the packaging problem; the most frequent program of environment protection is reducing consumption; the reasons for developing programs of environment protection refer to morale obligation towards the society and company's reputation improvement; although the most credible instrument that shows a company dedication in respecting the environment is an international certification standard, only 17% of companies activating on the Romanian market have such a certification.

When asked which domains they intend to develop in the following years, environment protection was mentioned by the majority of respondents, which leads us to believe that this area of corporate social responsibility can have a bright future on the Romanian market, if made with a strategic and market-oriented thinking.

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[*] This article is the result of the research conducted under the grant 91-067 "*Researches regarding the development of a growth model of the competitive advantage by the use of the corporative social responsibility in the context of the European integration and the globalization process*", financed by National Center for Programs Management, Romania

EXECUTIVE PAY: ARE U.S. EXECUTIVE COMPENSATIONS JUSTIFIABLE- A CRITICAL EXAMINATION

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ABSTRACT

With the collapse of some of the biggest and the most important financial institutions in the United States in 2008, and the government's effort to bail out some of the major firms on Wall Street, the issue of U.S. executive compensation has become a hotly debated and controversial issue. There are people who support executive compensations on grounds that it is necessary to retain superior talents in this country. On the other hand, there are people who argue that executive compensations have become out of line with the rest of the economy as well as that of other industrialized countries. This paper examines the issue of executive compensations and tries to show that, based on economic principles, excessive executive pay cannot be justified.

1. INTRODUCTION

In recent years U.S executive compensation has become a hotly debated and controversial issue. Moreover, since the US economy has gone into one of its worse downturns since the Great Depression of the 1930's, the issue of executive compensation has surfaced as a dominant political and economic topic. Those who are in favor of the generous executive pay argue that executives who receive such extravagant compensations are indispensable for the success of the corporations that have above normal performance compared to that of their competitors (Jensen & Meckling 1976). It is also argued that generous executive compensations are responsible for making the American economy more productive, more employment generating, and more dynamic compared to that of other industrialized economies (Gomez-Mejia, 1994; Barkema &Gomez-Mejia, 1998).

Critics, on the other hand, argue that the excessive executive pay has no relation to high productivity of the firm and in many cases the high pay is correlated with bad governance (Murphy 1999). They also argue that the executives go to great length to hide their true compensations from public scrutiny (Bebchuk & Fried, 2004). The high executive pay can also impact workers' morale by widening the gap between executive compensations and workers' pay in the long run which can lead to undesirable social consequences for a truly democratic system (Andersson & Bateman, 1997).

The purpose of this paper is to compare U.S. executive pay with that of their counterparts in other industrialized economies. Our study will investigate the following issues accordingly: We will examine and compare executive pay in the U.S. with that of other countries, and determine if there is any significant gap between the two, and if so, if there is justification for this discrepancy. We will also examine the trend in U.S. executive pay and its composition, and compare it with the average worker's pay. Furthermore, we will examine the existing economic theories that explain the rational for extravagant executive pay. Finally we will look at the counterarguments against excessive executive pay and its socio-economic consequences.

2. RESEARCH

2.1. The Changing Trend in the U.S. Executive Pay-

Unfortunately the American dream of upward mobility has become, in recent years, tarnished and has become largely limited to a select group of corporate executives. While corporate CEO's have enjoyed record levels of compensation, more and more middle-class Americans are experiencing stagnant wages and reduction in their benefits. According to a recent analysis of the 350 largest U.S. companies, in 2004 the average CEO compensation was over $9 million. This was a 14.5 percent increase over average CEO compensation in 2003. Moreover, adjusted for inflation, CEO pay skyrocketed 480 percent between 1980 and 2003 (WSJ April 11, 2005).

CEO compensation packages are often designed with tax avoidance in mind. By being compensated in ways other than direct salary payments, CEO's can pay themselves very low salaries in order to avoid certain forms of taxation, such as payroll taxes for Social Security or Medicare, loopholes which are not available to the average American worker.(Burton & Weller, 2005).

Not only there is a significant gap in compensation between American executives and the average American worker, but there is also a substantial gap between what American executives receive in comparison to their counterparts in other industrial countries. An international comparison of CEO pay shows a very wide gap between American CEO's and their counterparts in 6 leading industrialized countries. Typically, CEO pay in other industrialized countries is only about one-third of that of their counterparts in the United States. Switzerland is the only country surveyed in which CEO's made at least half as much as the American CEO's (See Table 1).

Table 1: International Comparison of CEO Pay 1988-2003

Country	Average CEO pay		Foreign CEO pay relative to U.S. **U.S. = 100**
	1988	2003	
Japan	$ 473,655	$ 456,937	20%
France	381,015	735,363	33
Germany	388,486	954,726	42
Canada	398,946	889,898	40
United Kingdom	759,043	2,249,080	37
Switzerland	481,125	1,190,567	53

Source: Economic Policy Institute, State of Working America 2004/2005. Ithaca, NY: Cornel University Press

The ratio of compensation for U.S. CEO to worker pay is also far more extreme than that in any other industrialized country. Taking a broader definition of compensation into account, instead of simply "pay," in 2005, a typical CEO's compensation was $11.6 million which was 279 times the average pay of a non-supervisory worker (Burton & Weller, 2006).

2.2. Theories Explaining High Executive Pay-

There are basically four major theories explaining the high executive pay: The marginal revenue product theory, the tournament theory, the opportunity cost theory, and managerial power theory.

Marginal Revenue Product Theory- This theory is based on the neoclassical economic analysis that with a well-functioning labor market there are well-informed buyers and sellers that bid for labor in a competitive market. Based on this theory, the negotiations between an informed buyer, the board of directors, and an informed seller, the CEO, leads to a competitive price (wage) in the labor market. Under such circumstances, the firm hires labor until the cost of an additional labor equals the additional revenue that the labor generates for the firm, known as marginal revenue product of labor (Pindyck & Rubinfeld, 2009). This theory predicates that in a competitive labor market the firm's CEO should be paid his/her marginal revenue product. As one can see, there are many shortcomings in applying this theory to CEO's pay. For one thing, one cannot assume that such a market is competitive in the sense that the neoclassical model assumes with both buyers and sellers having perfect information, with ease of entry and exit from the market. Moreover, the CEO is usually the chair of the board of directors in the company which adds a great deal of bias to the format of the bargaining power.

Based on the marginal productivity theory one can conclude that if the top manager's contribution to a firm's value is greater in the U.S. compared to that in foreign countries then U.S. executives should get paid higher relative to foreign executives. One can say that the U.S. economy is the leader in the important areas of intangible assets such asresearch, organizational structure, and availability of human resources. The U.S. ranks high in terms of GDP expenditure on R&D, and seems to be leading other countries with a very active and productive venture capital infrastructure turning inventions into business success (Colecchia 2001*).* Giving support to this process is a more educated and trained work force than elsewhere in the world. Given all these intangibles, it would seem to provide the U.S. firms with substantial opportunities for economic growth. In the context of the marginal productivity theory, if firms with greater potential growth generate more wealth, then the American CEOs should be entitled to higher pay than their foreign counterparts.

Based on this theory, if firms in the U.S. have more resources and thus greater growth opportunities, with CEO's having greater decision making authority and contributing more to the firm, then they should be paid more than their foreign counterparts.

Tournament Theory- The tournament theory of executive pay claims that the internal labor market for the firm is like a single elimination tournament, meaning that as the winners advance, the competition becomes more intense and the prize of moving to the next round of the competition becomes disproportionally larger. According to this theory, the winner of the tournament is the CEO, and on reaching the top, he/she gets the most power within the firm and in turn receives the largest pay. According to this theory, the greater the power that the CEO has within the firm, the more competitive the tournament, and the bigger the prize on reaching the top position (Wilkins & Gullati, 1998).

In the U.S. where the shareholder base is widely dispersed, the CEO plays a very pivotal leadership role and has a tremendous discretion in the decision making. The fundamental difference between the U.S. and other industrialized nations is that the American CEO is usually the true leader in the overall corporate structure. In many other countries the norm is concentrated shareholder ownership, with a much smaller role for the CEO. In these countries, most large corporations have a control shareholder, or controlling shareholder group (Prahalad & Doz*,* 2005). For example, in Japan the CEO is thought of as a first among equals who carries out a set of tasks that could be performed capably enough by various others, and the controlling shareholders help make critical decisions about the future of the firm *(*Meyer, 1992).

Opportunity Cost Theory- According to this theory the return to skilled labor, such as top corporate management, has increased in the United States recently at a much faster pace than in European or Asian economies due to a number of factors. For many years the large vertically integrated firms dominated the U.S. economy and employed professional salaried managers. These firms were oligopolistic in nature, heavily capital intensive, and due to the structure of the market there were barriers to entry (Thomas, 2004). The manager's skills at these firms were very firm and specific, and a manager's mobility to other firms was very limited. Furthermore, the capital intensive nature of such firms made it particularly difficult for managers to start their own businesses. Beginning with the decade of the 1980's, a number of structural changes took place in the U.S. economy. These structural changes were development of new technologies, especially in the computer and information field, globalization and openness of international trade, and extensive innovation in the financial markets and, therefore, availability of capital at reasonable terms. The opportunity for American skilled managers expanded rapidly with such developments, especially with the internet revolution which made it possible for many managers to start their own business. The increase in job mobility, more availability of capital, and employment options for skilled managers significantly increased and, consequently, had a big impact on the U.S. executive pay.

The opportunity cost theory, therefore, can be another explanation for higher U.S. executive pay compared to that of its European and Asian counterparts. In Europe the fractionalized nature of a capital market, and more restrictive securities regulation, makes it more difficult for European firms to start new businesses, and thus there is a much lower opportunity for executive mobility. The smaller size of the labor market and less mobility in turn had impact on the nature and the size of the executive pay in other countries as compared with that of the U.S. However, one has to realize that with more globalization and international integration, the convergence of executive pay between U.S. and the rest of the industrialized economies is inevitable in the coming years.

Managerial Power Theory- The essence of this theory is that managers in U.S. corporations have considerable power to shape their own pay arrangement, and that the executive pay set by the board of directors fails to maximize the shareholder value. Along this same line of argument studies have also established that there is a negative correlation between executive pay and unionization, and that loss of union membership is associated with higher CEO pay (DiNardo, et al, 1998). In line with all of the above arguments, there have been at least two major factors that made executive pay skyrocket upward in recent years (Jones, 2009): First was the practice of generous stock option grants, a form of compensation made more attractive by a 1993 change in the tax law that maintained corporate tax deductions for executive pay over $1 million, but only if the pay was tied to performance. Second was the widespread practice of linking pay to the levels at companies of similar size or scope. Every time a board tries to keep an executive happy by offering above-average pay, the net effect is to raise the average that everyone else will use as a baseline.

With all the anger against outsize CEO pay, very little has been directed to those who actually signed off on those increases: the corporate directors and the compensation committees. When one looks at cases where compensations of senior management were out of line, or CEOs were overpaid, it is apparent that it must be the fault of the compensation committee of the board. Instead of focusing on high executive pay we should really focus on the compensation committees that assign such exorbitant increases. The active shareholders have been critical of such pay practices for a long time, accusing the directors for being too cozy with the CEO.'s, too eager to make generous compensation for them and, above all, too ambiguous about the methods they use to assign such increases. However, in the absence of fraud or self-dealing, it is hard for shareholders to make a legal argument that boards have failed at their job, since existing laws extend broad legal protection to board members so long as they act in good faith and in a manner believed to be in, or not opposed to, the best interest of the corporation (Landy, 2009). In the United States, Congress has proposed bills requiring all public companies to establish shareholder advisory votes on compensation. However, since public companies operate under state law – more than half are incorporated in Delaware with liberal corporate laws – and the votes are advisory, boards do not have any legal obligation to abide by shareholder wishes on compensation (Jones, 2009).

2.3. A Look at the Composition and Trend in US Executive Pay-

Executive pay usually is composed of cash pay (which is based on salary, cash bonus, and perks), as well as stock awards and stock options . The following table shows the top 10 highest paid C.E.O.'s and the component of their compensations for the U.S. economy in 2008.

Table 2: U.S. Executive Pay The 10 highest paid

Company	Cash Pay	Stock Award	Stock Options	Total Compensation
Motorola	$ 896,711.00	$ 36,014,084.00	$ 67,534,784.00	$ 104,445,529.00
Oracle	13,226,000.00	0	71,372,700.00	84,598,700.00
Walt Disney	16,718,583.00	5,904,000.00	28,449,997.00	51,072,580.00
American Express	8,570,742.00	9,524,931.00	24,656,788.00	42,752,461.00
City Group	974,526.00	28,830,000.00	8,432,911.00	38,237,437.00
HP	26,044,577.00	7,907,660.00	0	33,952,237.00
Calpine	1,559,088.00	0	31,111,280.00	32,670,368.00
News Corp	26,003,168.00	4,049.988.00	0	30,053,157.00
Honeywell In'l	19,748,528.00	0	8,983,000.00	28,731,528.00
Proctor & Gamble	6,609,891.00	11,175,585.oo	7,782,738.00	25,568,212.00

Source: *New York Times*, April 5, 2009.

The most noticeable trend that has emerged in the United States since 1980's has been the explosion of stock options. As the table indicates, in seven out of the top 10 firms with highest executive pay stock awards and options dominate the pay scale. The economic forces that explain this trend can be attributed to a number of factors. By being compensated in ways other than salary payment, executives can take advantage of lower taxes, and consequently use the stock option as a tax avoidance venue (Burton & Weller, 2005). Supporters of the stock options argue that it aligns the interest of the CEO's to that of the shareholders, since stock options are only valuable if the stock prices increase. However, stock options are heavily criticized because this could lead to short-sighted decisions by the CEO's to engage in risky investments to increase the price of the stock in the short run at the expense of sounder long-term investments. Options are also viewed favorably because they have no value unless stock prices appreciate and do not entail any explicit cost for the company. And lastly, another motive for stock options is that it disguises the CEO's compensation, and therefore is less subject to political scrutiny.

2.4. The Counter Argument Regarding the High Executive Pay-

Two economists, Xavier Gabaix and Augustin Landier, offer a counter argument to excessive executive pay at American corporations. They argue that higher salaries for chief executives can largely be explained by increase in the value of the stock market (Gabaix & Landier, 2008). Viewed as a whole, these salaries are a result of competitive pressure rather than the exploitation of shareholders. Their argument is that if we look at recent history, we can see that compensation has risen with the market capitalization of the largest companies. For instance, from 1980 to 2003, the average value of the top 500 companies rose by a factor of six. In the same period the average salary of the chief executives also rose by the same proportion. In the U.S., the popular debate turns on merit – whether chief executives are worth the money, whereas in Europe, where inequality is less socially acceptable, the popular debate concerns whether anyone could possibly deserve such extraordinary rewards. The argument, led by professors Gabaix and Landier, to come up with an explanation of overall executive compensation, basically is that better executive decisions create more economic value and, therefore, justify more pay.

In response to Gabaix and Landier, Lucian Bebchuk and Jesse Fried, who are leading critics of excessive executive pay, argue that pay remains insensitive to performance, that high executive pay is correlated with bad corporate governance, and that chief executives take great care to hide their true compensation (Bebchuk & Fried, 2004). For all these reasons they do not believe that executive pay is driven by productivity. Although it is a fact that the rate of productivity growth has been very high in the past several decades in the U.S., one cannot say that it is all because of good executives and that they deserve the rewards in return. In addition to economic implications of high executive compensation there are significant social drawbacks to such an arrangement.

2.5. The Social Implication of Excessive Executive Pay-

At the current rate of executive pay the average American worker has to work for an entire year to make what the majority of the Fortune 500 CEO's make in one day (Rheannon, 2007). More alarming is that the gap between what the lowest and the highest paid employees receive is widening. This disparity in income has many important social implications for the foundation of democracy in America. Among them one can innumerate the followings: Today the CEO of a large company makes on average over $10 million per year in salary and bonus, whereas the average worker makes about $30,000 a year, which is about 160% above the poverty level of a family of four. Despite the excessive rise in executive pay in recent years, according to the U.S. Bureau of Labor Statistics, the average weekly earnings, in real terms, for all private nonfarm workers has declined from $ 302.52 in 1964 to $277.57 in 2004, a decline of over 8%.

Such extreme disparity of income between CEO's and worker's income can impact workers morale, and that can translate into a wide range of socio-economic issues.

3. CONCLUSION

The huge disparity between CEO compensation in the private sector and salaries in the government sector can take away talent from the public sector service in favor of the private sector and create conflict of interest and corruption that could threaten the foundation of a democratic system. In addition, the disparity of executive pay between publicly traded companies and nonprofit ones can also drain talents from one to the other. For example, the twenty highest paid executives at publicly traded companies took home thirty-eight times the income of the twenty top paid executives from the nonprofit sector. That is $36 million vs. $965,000. The gap is a powerful pull for nonprofit executives to defect to the private sector (Rheannon, 2007).

The excessive executive pay is also hurting the shareholders, as such huge executive pay is cutting into corporate earnings. In essence it is the shareholders' profit that is being siphoned off in favor of highly paid executives.

The above trend necessitates a change in the overall tax and compensation policy. For example,
One alternative would be to eliminate the tax loopholes that allow corporations to deduct excessive pay packages as a "business expense." Another one is to increase the top marginal tax rate on high income, currently at the historic low of 35%. And the last one is to end the tax reporting loopholes that allow corporations to report lower stock option expenses to their shareholders than to the IRS, thus enabling them to claim higher deductions.

What is promising about all this is that slowly the current political climate has begun to be concerned with the excessive executive pay and its economic and social implications. President Obama is currently one of the leaders in pushing for constructive changes that would give shareholders the right every year to vote on executive pay packages. Such changes could lead to more transparency in American corporate structure.

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CORPORATE ENVIRONMENTAL RESPONSIBILITY: COMMITMENT AND COMPLIANCE

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ABSTRACT

Corporate Organizations seem to embrace Corporate Environmental Responsibility for very different reasons: Compliance, Commitment (to environment), Camouflaging (environmental sins) and seeing yet another business opportunity in environmental goods and services. This paper discusses these dimensions.

Keywords: *Corporate Environmental Responsibility, Corporate Governance, Environment*

1. INTRODUCTION

Most Corporate organizations regard environmental regulations like emission control as constraints which they must satisfy in their pursuit of maximizing profits. They look at environment from a **compliance** point of view. However, some organizations **embrace environment** as a positive feature of their products, like 'green products' and show their **commitment** to environment as a feature of product differentiation. There are also other organizations that look at environment as a market and as a new business opportunity and **exploit environment** by entering this market with new environmental products and also advertising some of their activities as part of their Corporate Social Responsibility. The compliancers look at cost, the embracers look at consumer behavior and product differentiation and the exploiters look at the possibility of either green bucks or 'green-washing' their image. In this essay, I would like to examine these issues.

2. ENVIRONMENT AS A CONSTRAINT

In this case, environment is treated as an externality. That is the company that pollutes does not incur the cost but others in the society bear it. Take the case of a chemical factory which discharges toxic effluents into the river. And say there is no environmental regulation to check this company discharging the effluents. The company treats the river as a free resource. Since it is a free resource, it over uses it and pollutes it more. Upto a certain point, the river itself has the absorbing capacity and nothing happens. But beyond this level of pollution discharge, fishes in the river start to die. This is a 'cost' not borne by the company but by the fishermen, who also fish in the river. The solution to this problem is to make the company pay a pollution tax, an amount equal to the value of the fish that die, based on the extent of pollution. This is called internalizing the externality, viz. making the company pay for the pollution, which it was not paying before, and thereby making the pollution cost internal to the company.

3. CASHEW CULTIVATION, PROCESSING AND POLLUTION

While calculating the cost of pollution of river in terms of the fishes dying may be simple, there may be other situations where it may be complex. When a cashew growing farmer resorts to aerial spraying of insecticides like endrin, BHC and endosulphan on the cashew crop in his field, the population and children in the area develop skin infections.

Because farmers are 'holy cows' nothing can be done to stop this, except bringing to public awareness[i]. About 26,000 hectares are under cashew cultivation in Kerala in Kasargode and Kannur districts. Cashew cultivation needs very little care and cashew is a lucrative export commodity. From 1963 onwards as a part of management of the plantation, agrochemicals were used in all the estates. Hand pumps were used for spraying pesticides at that time. Toxic chemicals like Endrin were in use at that time and no precautions were given to the workers while spraying. Like doing any other work in the plantation, they resorted to this spraying operation in their usual dress dhoti and shirt. They never even covered their nose or mouth with a cloth while spraying. In 1980 they started the aerial spraying programme saying that this is the most effective and economic way of managing the pests of a plantation[ii]. Here we see an example of economic objectives and environmental objectives on the opposite sides of each other.

Interestingly, Cashew curing in factories has its own environmental problems. The drum roasting method of curing, leads to air pollution. The Andhra Pradesh Pollution Control Board issued orders to close down many factories in Srikakulam district for not switching over to a more environmentally friendly method of curing, viz. boiler cooking method. Obviously, the boiler cooking method needed new and costly machinery which the cashew curing factories resisted. Each unit required about Rs.10 lakhs for change over. The Central Government announced a subsidy scheme of Rs.10 lakh for each unit, of which Rs. 2.5 lakh was subsidy and the remaining was tax concession[iii]. Eventually, they changed over.

4. COKE-PEPSI AND POLLUTION:

In 2003, the Centre for Science and Environment, an NGO in Delhi, published a report 'Pesticides in Cold drinks' where it alleged that it found in Pepsi and Coke drinks in India, residues of lindane, DDT, malathion, and chlorpyrifosup to 36 times the maximum allowable limits set down by European regulations for pesticides in water used as food. The environmental organization says these agricultural pesticides have contaminated groundwater used in the manufacture of the soft drinks.
"Each sample had enough poison to cause, in the long term, cancer, damage to the nervous and reproductive systems, birth defects and severe disruption of the immune system," the CSE report said.
The CSE's Pollution Monitoring Laboratory, which conducted the tests, found pesticide residues in bottles of the two soft drink brands sold in India, but no residues in bottles of Coke and Pepsi sold in the United States.

Coca-Cola, in a statement issued claimed that the soft drinks it manufactures in India "conform to the same high standards of quality as in the U.S. and Europe and that there is no duality of standards.''
Pepsi, in a separate statement, claimed that all its products met all international standards and that the company has delivered only "safe and world-class quality" drinks to Indian consumers. "All Pepsi products meet and indeed better the most stringent testing standards," the company said.
But the controversy has exploded beyond the controversial CSE laboratory report. In 2003 two Indian state governments intensified matters by accusing the two drinks companies of causing cancer, kidney failure and miscarriages. The West Bengal government said that its Pollution Control Board has found high levels of the toxic metal cadmium in waste released from Coca-Cola and PepsiCo plants. The Kerala Pollution Control Board made a similar claim about Coca-Cola's Plachimada plant. It is not accidental that both Governments were Communist Governments, which used the report to attack the US based MNCs.

Meanwhile, the Centre for Science and Environment was contemplating legal action against the cola companies for attacking the organization's credibility and for not presenting relevant data to support their allegations that their soft drink brands are safe[iv].

Several lessons can be learned from this episode. 1. While CSE said that the drinks contained 36 times the pesticides as in Western countries, it was silent on the quality of input water. Obviously, these contaminations were part of the water and not part of processing. Even the milk supplied by Government PSUs like Nandini and Avin may also contain similar insecticides, but NSE did not choose to test that. Thus NGOs have a tendency for MNC bashing, even though such reports have their use in keeping the MNCs on their toes. 2. The MNCs did not choose to remove the insecticides, because the Indian Rules did not require them to do. So they have a tendency to exploit the loop holes or ignorance of developing countries, or even bribe their way through corrupt Government officials for sulking compliance. The Bhopal Gas tragedy would not have occurred in Union Carbide's Connecticut plant, because of greater clarity in environmental laws and better enforcement in the U.S. 3. MNCs will use their money power to muscle such organizations as CSE by involving them in series of court cases, where the NGOs cannot match them in money power. 4. At the same time, they suffer incalculable damage to their reputation by publication of such adverse reports, which damage their credibility and instigate Governments in developed countries too to investigate them. For instance, UK Government also found that Coke was bottling ordinary water and selling as mineral water!

5. COKE MEETS ITS WATERLOO IN WATER

Coca Cola has the biggest brand name in the World and few would have thought that it would have found a slippery slope in marketing its bottled water in UK, under the brand name 'Dasani'. But only after 5 weeks of its launch, in March 2004, it had to withdraw Dasani off the shelves in UK. What went wrong? Dasani was launched in the USA in 1999 as a bottled, purified water, and had become a huge success there. Taking that same formula and repeating it for the UK market must have looked like a breeze, but that wasn't quite how it turned out.

Unlike most of the bottled water sold in British petrol stations and supermarkets Dasani hadn't come from alpine glaciers or trickled out of a precious natural spring - it had come out of the local tap. True, the company put it through a purification process and added mineral salts, but the source was still tap water. The British press and people were outraged that they had to pay 95 pence for drinking tap water, marketed in a blue bottle, as a life style product! To add insult to the injury, some carcinogenic chemicals got into the process and Coke had to withdraw 500,000 bottle in circulation leading to the demise of the brand in UK and Europe. A vigilant press brought about this in the UK.[v]

6. EXXON WALDEZ POLLUTION

In 1989 The Ship Exxon Waldez dumped 11 million **gallons** of oil in the Alaska's coast out of its carrying of 1.5 million **barrels** of oil, and destroyed 700 miles of coastline and killed 36,000 birds[vi]. In the subsequent clean up operation, it further endangered the health of another 6,700 workers due to chemical poisoning by inhalation of oil mists during the clean up[vii]. Experts opined that had it used double hulled ships instead of single hulled ones, which were 20% cheaper, it might have drastically reduced the damage. It saved some $18 million using single hull ships, but eventually paid a cleaning cost of around $3.9 billion over 3 years and a punitive damage of around $507 million, apart from damage to reputation.

7. GREEN EMBRACERS

A whole new industry has come up offering green products for the home and office. Their product line includes green products made from organic, recycled, or bio-based (biodegradable) materials that lessen the impact on the environment. They have a full line of environmental products that can transform any home into an eco-friendly environment. Similarly another class of industry has come up that is in the business of pollution abatement, using new technologies and innovative solutions. Yet another industry looks at green final consumption products. These industries supply organic farming based vegetables, free of pesticides, for which some consumers are willing to pay more. The local **Namdhari** vegetable shop is an example.

Green certifying organizations are one of those that want to make hay in the environmental sun shine. They have come up with procedures that certify a product / process to be green, based on the following criteria[viii]:

Manufacturer's Commitment to Sustainability:

Is there a written, working environmental policy in place?
Is it easy to find on their Web site or product literature?
Does this policy strive to make important improvements in manufacturing, reducing and reusing first, then recycling?
Do they comply with their industry's voluntary testing programs?

Product's composition

What are the raw materials used to create the product?
And where do they come from?
Did the materials come from renewable resources?
Is the manufacturing process energy efficient?
Does the manufacturing process release harmful substances?
Are adhesives needed to make the product viable?
What are they using?

Other aspects of the products:

Are coatings or finishes needed to make the product viable?
What are they using?
Does the product nurture the health and well-being of its occupants?
Does the product do the job well?
How much energy does it use?
Does the product release VOCs? At what rate?
How is the product packaged and transported?
How is the product installed and maintained?
Does it have a color or texture that can lead to reduced lighting energy or an expanded range of thermal comfort conditions?
Can the product be maintained in a benign manner?
Using safe cleaning products?

Strategies for disposal:
Is the product durable? Biodegradable? Recyclable?
Can the parts be separated for recycling?
Can it be made into something else?
Can the product be returned to its manufacturer at the end of its useful life?

Cost considerations:

What is the price range for the product?
Does the manufacturer provide life cycle cost analysis on this product?

8. ENVIRONMENT EXPLOITERS (FOR IMAGE)

These organizations exploit being green for their Corporate Social Responsibility slogan. They are mainly energy producers who pollute the environment in the process and therefore want to 'green-wash' their negative image with green related atonement of their sins. There are other non-sinners, who just include 'greening' as part of their CSR product-mix; here CSR works as a public relations tool, creates a positive impression of customers about their products and improves their profits thereby. For instance, Du Pont voluntarily stopped making Chlorofluorocarbons. Patagonia makes very expensive natural garments. In the second category, Ben and Jerry's (ice cream maker) has a Product mission which states: "to make, distribute and sell the finest quality all natural ice cream and euphoric concoctions with a continued commitment to incorporating wholesome, natural ingredients and promoting business practices that respect the earth and the environment".

In a book on Environment and CSR, the authors ask and answer the question: When does it pay for firms to be green? The answer is simple: viz. when it can either increase consumer's willingness to pay or reduce the costs.[ix] They also say that only a few firms do active CSR and that too under special circumstances.

9. ENVIRONMENT AND CSR COMMITMENT OF ORGANIZATIONS:

Most energy organizations and most polluters are high on Environmental rhetoric. An inspection of web site of Oil Energy giants tells this story. For Instance Total, a French energy firms, puts environment at the top of their website. It claims that they do the following environmental good deeds:

- Improving air quality
- Protecting water resources and optimizing use
- Maintaining bio diversity
- Reducing and recycling waste
- Remediating sites and soil

Exxon says that they reduce their environmental impact by a host of the following things:

- Spill prevention
- Air emission from operations
- Waste management
- Water management, and
- Site remediation

De beers has to capture the hearts of women and men and so being environmental friendly is a sine qua non for its business. It claims that the stewardship of environmental resources is a core part of their commitment to the future of the countries in which we operate. They say that more than 185,000 hectares of their owned and managed property is set aside as nature reserves that conduct research on biodiversity.

10. CONCLUSION

For all the ascendance of environmental concerns in the society especially through increased awareness of the climate change problems, environment is still looked upon as something to be complied with, in order to be within the bounds of legality and firms have not gone beyond. Those firms that have indeed gone beyond are few, and their circumstances were special, in the sense that they may be making so much money that they could afford the luxury of donning the environmental mantle. Thus it would appear for firms profit comes first, shareholder's welfare next and environment comes after these basic goals are satisfied.

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TURTLE TRADING GOLD: IS IT A SHELL GAME?

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ABSTRACT

The recent volatility in the financial markets has again focused the spotlight on the value of gold. Trend followers such as the legendary Turtles, including Curtis Faith, Russell Sand and their followers postulate that trend trading systems are superior to buy and hold systems.This paper analyzes breakout and trend following system based on the work of Richard Donchian, Richard Dennis and recently popularized by trend traders and "Turtle Traders" and their followers. New York Times Bestselling Author Michael Covel and former turtle Curtis Faith have popularized the trend trading system with their recent books. Data for gold futures contracts for almost thirty years, from 1980 into 2010 are filtered through a turtle trading program created on VBA programming for Excel. The results will show whether gold has trends in price that are recognizable by the trading system, profitable, and exhibit acceptable risk. The system compares the trend trading system with a buy and hold system and also examines comparable results using the S&P 500 Index and also U.S. Treasury Bonds. The returns of the systems as well as the risks of the systems are examined.Trend trading with channel breakouts is experiencing renewed interest by the investing public. It is important that researchers investigate the validity of such a strategy. This study cannot lend credence to the successful claims of popular literature. The study does indicate that some potential does exist for positive returns, especially when the system incorporates good money management techniques.

Keywords: *Technical Analysis; Trend Trading, Donchian Channels, Turtle Trading, Gold Futures, Investment Strategies*

1. INTRODUCTION

Gold is recognized as one of the most important stores of value in the world. It has been traded for hundreds of years. This valuable commodity remains one of the most important measures of wealth in existence. Trend traders make their profits by identifying a trend in a major market, such as gold, staking a position and maintaining that position until either the trend ends or reverses. Most modern financial researchers since the late 1930s have postulated the tradable markets have no rhyme or reason. The price staggers like a drunken sailor down the random sidewalk of the financial markets or the most likely future price is the one observed in today's market; because all the information that is to be gleaned is already included in the efficient market price.

This article is not about random walks or efficient markets. Those definitions and discussions belong to other more astute authors. This article concerns an observable empirical possibility. Technical analysts believe first and foremost that "Markets Trend" (Kirkpatrick and Dahlquist, 2007). Legends surround the "Turtles" of the 1980s. The story of the Turtles has been clearly explained by Covel (2009) and Faith (2009). The essence of the turtle trading strategy is catching a breakout of a trend and taking a position to make a profit.

Trend research is today a popular area; Gencay (1998) found strong evidence of nonlinear predictability in the Dow Jones Industrial Average Index returns using trend based moving average rules for the time period: 1897-1988. Kwan, Lam, So, and Yu (2000) utilize a trend trading strategy that outperformed a simple buy and hold strategy in the Hang Sen Index. Pukthuanthong-Le, Levich and Thomas (2006) find that trend trading foreign exchange futures contracts worked between 1975 and 1994 but the performance declined from 1995 to 2006.

Gold has long been a popular subject to research. Most articles study gold as a barometer of economic health. Rohan, Chaudhry, and Koch (2000) examined how macroeconomic news releases affect gold and silver prices. Some authors, such as Lauterbach and Monroe (1989) and Xu and Fung (2005) have studied the application of trading strategies in the gold futures markets. They analyze across-market information flows for gold and other precious metals futures contracts.

Gold futures data from 1980 into 2010 are filtered through a trading system that replicates the turtle trading system explained by Covel and Faith. The results are examined to determine:

- Trends are identifiable and sustainable
- Profits are possible
- Risk is manageable

Model: The trading model is a breakout system based on the work of Ricard Donchian and modified by Richard Dennis. Donchian was a pioneer in trading in the 1940s into the 1960s. Richard Dennis was the initiator, instructor and creator of the turtles in 1983. The system was first utilized by these authors in research on soybean trading (2008). The model can be explained:

20 DAY CHANNEL BREAKOUT

If $CP_{t=0}$ > Max (CP_{t-20} … $CP_{t-1)}$: Buy One Contract †

If $CP_{t=0}$ <Min (CPt-$_{10}$ … CP_{t-1}): Sell Stop to Close Position

If $CP_{t=0}$ <Min (CPt-$_{20}$ … CP_{t-1}): Sell One Contract ††

If $CP_{t=0}$ > Max (CP_{t-10} … $CP_{t-1)}$: Buy Stop to Close Position

If no stop occurs position is held until reversing signal occurs or until $CP_{t=ltd-10}$

(† = One contract net long as long as it not more than 20% of the trading account. The remaining % is held as margin in the account.)

(†† = One contract net short position as long as it is not more than 20% of the available capital in the trading account. The remaining % is held as margin in the account.)

Where:

$CP_{t=0}$ = Closing price at time 0, the day of the trade.

Max (CP_{t-20} … $CP_{t-1)}$ = Maximum of the closing prices from t=-20 through t = -1)

Min (CPt-$_{10}$ … CP_{t-1}) = Trailing sell stop

Min (CPt-$_{20}$ … CP_{t-1}) = Minimum of the closing prices from t= -20 through t = -1)

Max (CP_{t-10} … $CP_{t-1)}$ = Trailing buy stop

$CP_{t=ltd-10}$ = Closing price on trading day 10 days before the last trading day of the contract.

The channel is formed over time as the price moves up and down between resistance and support levels. Donchian described a channel as a minimum of twenty trading days. The channel is formed by the daily high and low prices. Richard Dennis and the Turtles used the twenty day channel but also used a fifty five day channel for a more conservative approach. If the closing price for the day exceeded the previous twenty day's high prices then a long position was initiated and the contract was purchased. Alternatively, if the day's closing price was lower than the previous twenty day's low prices then a short position was initiated and the futures contract was sold. The system can by analyzed with or without stops. An integral part of the system adds to the position if the price moves in the anticipated direction. More detail about the system can be found in Rayome and Jain (2008), Covel (2008) and Faith (2008).

Data: Gold futures contracts have been traded continuously since xxxx. The primary months of activity are February, April, June, August, October and December. The model is tested on daily data for those months from January 1980 through April 2010. 91 futures contracts are examined over 30 years. The most liquid months are used for the tests and there is no overlap of contract months traded. The front month for each trading period is used for the data source. The closing daily price is used for the entry price. The exit prices are recorded as signaled. Because all trades occur in the front, most liquid contracts, slippage is assumed to be a minor effect.

Transactions costs were ignored in this study. Once the profitability of these strategies are established, transactions costs can be included. Each contract, if necessary, is closed ten days before expiration of the contract. Whether the position is rolled into the next contract period is determined by the presence of a new signal.

2. ANALYSIS

The data were back-tested using our model via a back-testing and simulation decision support system built using Visual Basic for Applications. The system was fed three sets of data – Gold Futures, S&P Futures and T-Bill prices. First, the system used the Turtle rules to determine appropriate break-out entry, pyramiding entry, and exit points for the Gold Futures data, and calculated the returns generated thereof. Then, the software determined what returns would have accrued if the same entry and exit points were applied to the S&P and T-Bill data.

Back-testing was conducted on 6 separate time-spans as detailed in the table below. At the beginning of each span, investment opportunities in the span's first contract period are explored with a certain amount of capital in hand. Then, when this contract period ends, the available capital is used to explore investment opportunities in the next contract period, and so on, till the end of the last contract period in the time-span. Only J, Q and Z contracts were studied because these end in April, August and December of each year, allowing for evenly spaced 4 month periods between contracts. Hence, only the last 4 months of each contract – typically the most active trading months for any contract – were under active consideration for back-testing.

The Turtles existed as a group from approximately 1983 until 1987 when the experiment began to unwind. This study analyzes the performance on the trading system in five year intervals to capture the approximate time frame of the "Turtle" era, and also to observe whether different economic climates might affect the performance. At the beginning of each five year interval the beginning balance is reset to $50,000.The daily price date for 91 gold futures contracts, the S&P Index and the U.S. T-bill were filtered through the trading system. Over the 30 year period 281 breakouts were identified; 223 were long breakouts and 58 were shorts. The following tables identify the relevant results of the study.

Table 1:Gold Results

Gold Results:				
Max π/ctr	Max loss	Ave π	Pos Max	Pos Min
6,469.80	-3,619.21	182.69	68,747.69	42,656.05
Max Long	Max Short	Ave Long	Ave Short	
1,820.48	2,897.88	-5.73	65.23	
# Long	Ave # Long	# Short	Ave # Short	
223	2.53	58	.64	

An average of 2.53 long breakouts averaged a loss of $5.73 per trade while an average of less than one short breakout (.64) trade per observation period resulted in an average of $65.23 profit per trade. The results are then compared against opportunity cost results in the S&P 500 Index and the U.S. T-bills.

Table 2: Opportunity cost results in the S&P 500 Index and the U.S. T-bills.

Time-Span	Gold End Amount		S&P End Amount	TBill End Amount
1980-1984	63,925.58		64,142.20	64,228.67
1985-1989	49,890.77		50,713.79	49,187.40
1990-1994	50,302.50		50,335.47	51,013.66
1995-1999	55,676.80		51,130.93	50,900.68
2000-2004	52,688.93		53,403.27	50,884.36
2005-2010	44,139.95		45,563.17	45,634.48

The Turtle system was more profitable in Gold futures than the other two choices in only one period, 1995-1999. Since the system was identifying trends in Gold, the S&P and the T-Bill returns can be viewed as random results. These results do not identify anything exciting about the trend trading system.

Table 2: Trend trading system

Time-Span	Turtle Rules	Buy & Hold Return	S&P Return	T-Bill Return
1980-1984	5.17%	-11.40%	-0.51%	2.69%
1985-1989	0.07%	0.07%	0.95%	1.84%
1990-1994	0.11%	-4.68%	-1.47%	0.42%
1995-1999	2.02%	-8.50%	-0.91%	0.91%
2000-2004	1.06%	8.65%	-0.02%	0.61%
2005-2010	-1.79%	17.76%	0.49%	0.42%

(note: all returns are annualized on average period returns)

The Turtle system outperforms a buy and hold of gold futures over the observation periods and appears to outperform the S&P on average returns, but has difficulty outperforming the T-Bill returns.

Table 4: Descriptive Summaries over the entire period from 1980 to 2010

	N	Mean	Std. Deviation
Turtle Rules	91	1.07%	9.69%
Buy & Hold Return	91	0.51%	25.57%
S&P Return	91	-0.24%	4.84%
TBill Return	91	1.14%	1.56%

(note: all returns are annualized)

The Turtle rules generate a result slightly better than the S&P 500 but less than the T-Bill return. The Standard Deviation of the Turtle system is also more volatile than the T-Bill's.

Next, one-tailed independent samples t-tests were conducted to determine whether the difference between the returns associated with the Turtle rules on the commodity is significantly different from the returns associated with the other investment modalities.

Table 5: One-tailed Independent Samples t-tests

Pair Tested		t-test significance (1-tailed)
Turtle Rules	Buy & Hold Return	0.42
Turtle Rules	S&P Return	0.12
S&P Return	TBill Return	0.01

(note: difference is significant when p-value is less than or equal to 0.05)

The only significant difference is between the S&P return and that of the T-Bill return. We find no significant advantage to using a trend based system for trading gold futures contracts.

3. CONCLUSION

Previous research has shown some merit in trend following systems. The authors have also found some profitable results utilizing trend trading systems in agricultural commodity markets (Rayome and Jain, 2007, 2008) but this study does not come to a similar conclusion.

Trading gold futures contracts through a trend trading "Turtles" rules system from 1980 into 2010 produces results that are not significantly different that trading the S&P 500 Index or the U.S. T-Bill for the same periods of time. The conclusion is that the results are not significantly different than random ones.

Perhaps the authors have missed some important piece of information, or perhaps the system as made available to the public, does not work on gold. This research does not conclude that trends do not exist, but rather that profiting from trends may be more complex than is commonly regarded.

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VENEZUELA IMPACT ON LATIN AMERICAN INTEGRATION

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ABSTRACT

The aim of this paper is analyse Latin America (LA) commercial integration process under international politics perspective and Venezuela impact on it, especially on MERCOSUL. Since 1960 LA have had many agreements and associations. Curiously and paradoxically, facts show that Venezuela's President Hugo Chaves, which works to LA integration and looks like an American enemy, in fact works against LA integration and according to USA interest.

***Keywords**: Regional integration, Trade, International relations*

1. INTRODUCTION

Latin American integration process since 1960
Regional integration is part of globalization process drawn since the end of The Cold War whose main characteristics are products and capital flows and State interdependence. It brings economic and social development perspectives but also some risks.

The European Union (EU) is on an advantage regional arraignment as it is a free trade area and a monetary union, yet imperfect. Latin American (LA), on the other hand, is far from EU. The biggest step to LA regional integration was in 1960 with Latin American Free Trade Association (ALALC). Venezuela comes to this Association in 1970. 7Just after ALALC failed and Latin American Integration Association (ALADI) was created in 1980. But it doesn`t worked well. Among the political reasons few USA attention, continental security worries and regional economies development.

Regional integration process in South America looks like a random walk, what makes it more difficult. Many blocks and association were created with the integration as objective as Andean Nation Community (CAN) in 1969, Caribbean Community and Common Market (Caricom) in 1973, South Market Community (MERCOSUL) in 1991, Bolivarian Option to Americas (ALBA) and South American Nation Union (UNASUL) both in 2004.

Hugo Chavez is Venezuela President since 1999 and since he is favour regional integration. However ALBA, Chavez`s creation, has not only economical but also social and ideological objectives. In 2006 Venezuela dropped out from CAN and asked permission to be part of MERCOSUL. Uruguayan, Argentinean and Brazilian Parliament authorized and Venezuela is waiting Paraguayan answer. But Venezuela is an strange partner because of Chavez inflexible position. The block could become inflexible or tied to Chavez position as decisions are always consensus. Before we go ahead, we should analyse Venezuela social-political movements and Chavez strategies.

2. VENEZUELA POLITICAL DYNAMIC AND CHAVES STRATEGIES

During almost 20 years Venezuela had dictatorial regimes whose results were not the first best. *Pacto de Punto Fijo* was signed down to avoid this government style and to keep political stability through democracy. The *Pacto* began part of Venezuela constitution in 1961. Simultaneously, the two main Venezuelan parties – Democratic Action (AD) and Christian Social Party (COPEI) - agreed around a power switching. They also agreed not recognise military government and protect democracy in international forums. The *Pacto* worked between 1958 and 1989 under petrol economic base.

Carlos Andre Perez, former Venezuela president in 1974, back to the power in 1989 with unpopular economic changes. Perez change fiscal, social and exchange rate policies, external debits and trade orientations and financial system regulation. Those changes finished in 1992 under strong popular reactions against it.

In this period, Hugo Chavez Frias, a Venezuelan General and Army Command, began a nationalist movement whose main objectives were fight against corruption and find a better political economy management. Chavez was arrested between 1992 and 1993. After prison, he leave military career and to works on politics.

In 1998 Chavez was elected Venezuela president with 56.2% of the votes. In the beginning of his government he change agricultural incentives, builds houses to workers and reduced labour journey from 48 to 44 week hours. He also elected Bolivarian ideas as foreign politics benchmark. As his first revolutionary action he change Venezuela name to Bolivarian Republic of Venezuela in the Federal Constitution in 1999. The new Bolivarianism under Chavez administration has strong influence on Venezuela popular sectors.

Chavez also worked in favour of Latin American integration, but according to his believes. He suggested and created the American Bolivarian Option (ALBA) whose objective should be away integration covering social principles, poverty and social exclusion reduction. It is named 21st Century socialism which has an authority bias and is against American influence in ALBA area. In 2000 Chavez were re-elected with 60% of the votes. He detected opposition increase from middle and high class Venezuela society against petrol tax increase which reduce their wealth. In 2002 Chavez change exchange rate and monetary policy in middle a general strike, caused by opposition mass media according to him.

In 2007 Chavez call a popular referendum and just as precaution, he cancelled Caracas Radio and Television (RCTV) communication licence - the main opposition mass media vehicle. He asked population to decide in favour or not president, province governor and city major unlimited re-election, new worker journey reduction from 44 to 40 week hours, a Bolivarian army and a non independent Central Bank which should be under Venezuela president control. Opposition strong criticized and population voted against. But Chavez call a new referendum in 2009 and his set of changes was approved with 54.8% of the votes. Now Chavez was able to be Venezuela president indefinably and work on your 21st century socialism project.

Chavez government is strong authority, economic protectionist and nationalist - all characteristics against a democratic regional integration. He nationalized cement, steel and banks companies and get firms petrol control. Many of them international companies or under international companies control as Santander bank and Cargill agriculture firm.

In 2006 Venezuela leaves CAN because of possible American influence in this Community and free trade agreement between US and Peru and USA and Colombia. It sunk this group because, according to Bird data, 70% of intra block trade flow was between Venezuela and Colombia. Also, Venezuela GDP was 42.62% of the CAN GDP and his export 47.57% and imports 39.67%. On the other hand, Venezuela comes to MERCOSUL as a associated member in 2004. In 2006 asked to be a permanent member. But Venezuela`s political behaviour made many people ask if that country is really a democracy an key issue to be a MERCOSUL member according to Ushuaia 1996 democratic protocol. Also, Chavez is completely against USA actions in South America. But USA is some of the main commercial partner of some MERCOSUL members. Curiously and paradoxically, USA is the main Venezuela petrol consumer. So, Venezuela ambiguous position is a potential source of MERCOSUL instability.

Venezuela, Russia and Iran: a global alliance against the American enemy?

Some Chavez recent actions help us understand how dangerous Venezuela could be to MERCOSUL stability. Chavez were against American military bases in Colombia because it is a source of dangerous to the continent as American is, in fact, looking for Amazonian natural resources as petrol and strategic minerals. Chavez bought billions of dollars in Russian military equipment to keep national security against a potential enemy in Venezuela neighbourhood territory - Colombia. Between 2005 and 2007, Chavez and Russia signed in 12 military contracts worth US$4.4 billion. In the package guns and military airplanes and helicopters. In 2008-2009 a new military agreement to buy submarines and war tanks, now worth US$2.2 billion. We should remark that Russia and Venezuela have some characteristics in common: there are petrol global suppliers and are against USA in international relationships.

Venezuela and Iran agreements were about methanol refinery. But it goes beyond economic perspective. It is an anti American imperialism cooperative behaviour. The 2009 agreement allows Venezuela and Iran go closer through the next 10 years.

To sum up, Venezuela and Russia and Venezuela and Iran agreements, all of them USA enemies, could be consider a global alliance against the American hegemony, at least in the rhetoric side.

3. UNCOVERING THE FACTS

MERCOSUL fast commercial integration was an economic surprise to USA and European Union. It began in 1994 with a US$4 billion annual volume and it was US$21 billion in 1998 intra-block trade. 3Many Japanese and American products, especially machineries and industrial equipment, were change to similar made in Brazil. Lula administration is working to go ahead, joining MERCOSUL to Andean Community and adding new members as Suriname and Guiana. However, Chavez position is ambiguous. On one hand, he says against American. On the other hand, USA is his main petrol client and Venezuela has hundreds of gas station in American territory. Should Chavez be a liar? Could his actions in fact be theatrical and superficial? In fact, any Chavez` action brought damage to American, inclusive Russia and Iran alliance. However, it brought delays and instability to LA integration.

Latin American is an important supplier of petrol, natural gas and strategic minerals, and food and fruits as well. We should remember President Carter comment after Afghanistan Russian invasion: "An attempt by any outside force to gain control o the Persian Gulf region will be regarded as an assault on the vital interests of the United States o America and will be repelled by any means necessary, including military forces". And we also should remember President Clinton comment about Caspian Sea Petrol: "In a world of growing energy demand, our nation cannot afford to rely on any single region for our energy supplies…we not only help Azerbaijan to prosper, we also help diversify our energy supply and strengthen our nation's security" (site official White House, 2010)

Any International Politics analyst knows that ever since leading countries does not measure diplomatic or military effort to keep access to strategic recourses anywhere. And American is doing his job. In fact, since Clinton administration there are American actions to create some difficulties to the block, some of them bringing problems until today. For example, Clinton visited Argentina and said Brazil could be a possible Permanent United Nation Security Council member. It makes Argentinean suspect Brazilian intentions and afraid about equilibrium power.

4. CONCLUSION

Regional integration is a constant subject in international relations. Venezuela join to MERCOSUL is at least curios if we compare Chavez speech and actions: any effective democratic action and an instable international behaviour to build the 21st century socialism in America. In this context we should ask: Is Venezuela against Latin American integration? and Should be Venezuela an USA instrument against Latin American integration?

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CONSOLIDATING RURAL PENNSYLVANIA MUNICIPALITIES: A TAXPAYERS CHOICE

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ABSTRACT

This paper presents a case for the amalgamation of local government municipalities in parts of the US, and in particular, rural Pennsylvania (PA). It presents a case by first, examining recent international trends in local government management including council consolidations (or mergers), and second, by showing that municipalities in rural PA are, for most part, too small to be (i) democratically effective, (ii) to attract and retain quality management, and (iii) to deliver the services their constituents expect. This paper concludes by suggesting that the present structure of local municipalities in rural PA is out of date and reform is needed.

Keywords: *Local government, Consolidation, Amalgamation, Pennsylvania*

1. INTRODUCTION

During the past two decades, many western nations, including New Zealand, Australia, the USA, and Canada, have undergone significant public sector reform. The overriding objective of this public sector reform (often referred to as "new public sector management") has been to require government entities to adopt private sector practices so as to become more efficient and more accountable (OECD, 2005). These reforms have included, but are not limited to, the introduction of public sector accounting standards (GASBS, IPSAS), the migration from cash to accrual accounting (Guthrie, 1998), an increasing requirement to have government sector financial statements audited by private sector accounting firms, job contracts and performance bonuses, *and* amalgamations of local governments (Nelson, 1990).

This paper presents arguments for and against consolidating small local governments by comparing the merging of local governments in the state of Victoria, Australia during the mid-1990's, with the apparent need to merge many local municipalities in the state of Pennsylvania, USA. This paper also makes reference to other states within Australia that are considering pursuing local government mergers and other states in the US that should also consider such mergers.

2. LITERATURE REVIEW

On October 6, 1992 after many years of Labor Party rule, Victorians elected a "Jeff Kennett" led Liberal/National Party to state government in an overwhelming majority (see Carlin, 2003). The Kennett era, as it is known, lasted seven years. Somewhat surprisingly, the Liberal/National Party lost the 20 October 1999 election to a Steve Bracks led Labor Party. However, during those seven years of the Kennett era, many significant and dramatic reforms were implemented (Carlin, 2005). One reform was to reduce, through amalgamations, the 210 local governments that existed in 1994 to only 78 by 1996 (Local Government Association, 2008). Thus, the average population of each local government increased from 21,000 to 62,000 and the average land coverage almost tripled from 600 square miles to 1800 (Jones, 2006).

In 1994, the Kennett Government brought about forced amalgamations of local municipalities by dismissing the 2000 (approx.) democratically elected councilors and replacing them with 210 commissioners (one for each municipality) to implement the reform process. Two years later, the task was complete and the new larger municipalities could return to democrat rule through local government elections, albeit with now only 600 representatives (instead of over 2000). During the transition, the Commissioners undertook the task of managing the day-to-day activities of the council and implementing the Kennett Government policies for municipalities to consolidate with neighboring councils.

One example of this forced amalgamation process is that of the Mornington Peninsula Shire. At the beginning of 1994, three local governments operated on the Mornington Peninsula; namely the Mornington Shire, Flinders Shire and the Westernport Shire. At the end of 1996, the three councils were now one, known as the Mornington Peninsula Shire (Mornington Peninsula Shire, 2008). Hence, the revenues, expenses, and responsibilities of formerly three shires are now the responsibility of one shire bounded by almost the same boundary as the former three. In 1996, the three Commissioners resigned their positions and were replaced by a group of 11 elected councilors.

The benefits of such consolidations outlined by the Kennett Government and other proponents (Boyne, 1995) were based on the theory of economies of scale; that is, better services provided to constituents for less property taxes. In fact, in 1994, upon replacing the councilors with Commissioners, the Kennett Government reduced property taxes (known in Australia as “Rates”) by 20%.

The Mornington Peninsula Shire population, as of 2006 Census, was 140,000 people on a land area of 280 square miles. The Mornington Peninsula Shire is the only local government body for that area. It comprises eleven wards each represented by one councilor with each ward having approximately 12,000 registered voters. In the most recent general election of 2005, all wards except one were contested by an average of three candidates. A 75% voter turnout and a preferential system of voting meant that the successful candidate required at least 4,500 votes. That elected official represents about 12,000 voters.

The state of Victoria today comprises 79 local governments of which all have defined and clear boundaries that do not overlap or overlie (i.e., there are no donut municipalities). They are called cities or shires depending upon their population size. They are the third and final tier of government within Australia; that is, there are no governing bodies within a city or shire municipality. Each has their own extensive website containing the required links for citizens to access the information they seek.

In the US, 48 of the 50 states in the US have operational county governments although Alaska and Louisiana call their counties boroughs and parishes respectively. Connecticut and Rhode Island have geographic regions called counties, but they do not have functioning governments. Hawaii and Delaware have the fewest counties (4 and 3 respectively) while Texas has the most (254). Overall, the US has 3,033 counties of which there are 33 city-county governments (e.g., Jacksonville/Duval City/County). Counties in the US vary significantly in size and population. The largest county by population is Los Angeles, California (nearly 10 million people) while the smallest is Loving County, Texas (with 67 residents living in 31 households). The smallest county by land area is Arlington County, Virginia (26 square miles) while the largest is North Slope Borough, Alaska (87,860 square miles). Counties comprising populations under 50,000 account for nearly three-fourths of all county governments in the US (NACO, 2008) Within the county structure of government for most states lie smaller local governments called cities, townships or villages, most of which are incorporated and have elected government. Nelson describes local government in the US as a “crazy quilt” of overlapping boundaries (Nelson, 1990). For example local government in Pennsylvania is a “mosaic” of 5,334 individual units with each unit being independent, although geographic overlap is common. As of 2001, Pennsylvania comprised 67 counties, 56 cities, 964 boroughs, 1 incorporated town, and 1,548 townships (Greene County, 2008).

To further illustrate, Indiana County, located in Western Pennsylvania (approximately 60 miles east of Pittsburgh), has a population of around 90,000 people on a land area of 834 square miles. Hence it is slightly less populated but larger in area than the Mornington Peninsula Shire. Within its boundaries, Indiana County includes 14 Boroughs and 24 Townships. Borough populations range from 131 people to 14,895 while Township populations range from 696 to 14,034. The average land size of a Borough is less than one square mile while the average for a Township is 30 square miles.

In the recent general elections held throughout Pennsylvania on November 6, 2007, all townships and boroughs within the Indiana County held elections. Thus, there were 38 incorporated governments holding elections for a population of 90,000 people. For the Borough of Armagh (the smallest incorporated government in the county), the registered voting population is 87 of which 32 (37%) cast a vote, although not for all positions. Not surprisingly, in this small rural town of 100 people, no candidates stood for the positions of Borough “Auditor” or “Constable” or “Council”. In fact, of the 37 jurisdictions within the Indiana County, there were candidates for the position of Auditor in only 12, with one candidate requiring only 95 votes to win the first-past-the-post election. For the other 25 jurisdictions, there were no candidates. In the largest populated (14,895) incorporated government body, Indiana Borough, divided into four wards, the three candidates of Ward 1 contested 794 votes. This is in a municipal ward of 1,345 registered voters; a 59% voter turnout. Furthermore, of the three person race, two candidates were to be elected. Add to this the fact that one incumbent for each ward of Indiana Borough was not required to stand for re-election and we have 10 councilors representing approximately 15,000 people or 1,500 each (County of Indiana, 2008). Furthermore, Indiana Borough is a donut municipality of one square mile; that is, it is entirely surrounded by White Township.

A neighboring state of Pennsylvania is Ohio. It appears from a search of relevant websites that the local government structure of Ohio is similar to that of Pennsylvania; that is, governments are formed at the city, township, and village level within each county. Similar to Pennsylvania, some of the townships have very small populations. For example, Logan County of Ohio has a population of about 46,000 people. Within its boundaries it includes one city (Bellefontaine), 11 villages, and 17 townships. The County holds elections for three commissioners, an auditor and other positions, while the city and each of the villages hold elections for mayor, councilors and auditor. The townships have elections for three trustees each and a clerk. Monroe Township has a population of only 1500 people. One could say that this is one Trustee representing 500 people.

Another neighboring state of Pennsylvania is New York with 62 counties. The population of the county of Niagara is 216,000. This county encompasses three cities, five villages and 12 townships. The township of Wheatfield has a population of 15,000 and has one supervisor and four "councilmen-at-large" (all elected) to administer it (Niagara County, 2008). Thus, one could say that the representation is one for three to four thousand citizens.

The nearby state of Indiana includes 92 counties. The largest, Marion County, has 750,000 residents while the smallest, Ohio County, has only 5,000 on 87 square miles. Within Ohio County there is one incorporated township (i.e., Rising Sun) and four townships. This city of Rising Sun has a population of 2,500 on a land area of 1.5 square miles. It elects a mayor and councilors. The smallest township is Pike (362 people). It also has an elected government.

For many of these boroughs, cities and townships throughout the US, one is surrounded by another (hence they are known as donut councils). Thus, the residents of these cities are often directly and indirectly governed by the city, the town, the county, the state and the nation; and paying taxes to all. According to Nelson (1990), the highest concentration of taxing authority's (n = 941) and general-purpose governments (n = 318) in the US exist in Chicago.

It is argued in this paper that the citizens of many states in the US are being overgoverned. Furthermore, they are paying the price for being overgoverned with higher taxes and less services. The merging of these small local governments into larger ones is required for citizens of these municipalities to receive the services they warrant in the 21st century.

3. METHOD

It is apparent from the statistics offered in this paper that the citizens of Indiana Borough, and presumably other boroughs and townships throughout Pennsylvania and similar states in the US, are much more highly represented than citizens living on the Mornington Peninsula or other Australian municipalities. That is, 1500 for each councilor on the Indiana Borough compared with 12,000 for each Mornington Peninsula councilor. And, this does not include representation from the Indiana County Commissioners for the citizens of Indiana Borough. Add to this the fact that many incorporated governing bodies within the boroughs and townships of Indiana County did not attract candidates in the last general election to fill vacancies and it appears that there is a case for many local governments in Pennsylvania to be consolidated.

The cost per taxpayer for services provided is a major consideration when evaluating the efficiency of local government structures. The Mornington Peninsula Shire budget, a 237 page document, (Mornington Peninsula Shire, 2008) shows revenues for the 2005/2006 financial year to be $105 million. That is, approximately $840 per head of population. Property taxes (known as Rates) for home owners living in the Mornington Peninsula Shire for 2008 are set at $0.002 on the capital improved value of the home. For a $200,000 home (median price = AUD337,000), the Rates would amount to around $400 per year. In comparison, property taxes for home owners in Indiana Borough average $.02 on the capital improved value. Therefore, the property taxes on a $200,000 home (median price = USD94,000) would approximate $4000. Thus, on property taxes alone, the local government of Indiana Borough is charging ten times more than those of the Mornington Peninsula. Furthermore, the Indiana Borough also collects income taxes. In Australia, only the federal government collects income tax.

Although it is difficult to quantifiably compare the services provided by both local governments (i.e., Indiana County vs. Mornington Peninsula Shire), a “drive-around assessment” comparing the conditions of the roads and pavements, the quality of the parks, gardens and bike trails, and the overall appearance of the government buildings (e.g., public libraries, sport stadiums, municipal offices), would demonstrate to the visitor to each area that local government of the Mornington Peninsula is able to provide many more modern-day services than those of many counties, cities, townships, or boroughs in north-east US. One clear example is that pavements in Australia are maintained in good repair by each municipality whereas in Pennsylvania it is the property owners’ responsibility to maintain the pavement outside of their home. This paper argues that the extra layers of government in the US are inhibiting progress and increasing costs. A major overhaul of local government within the US, with financial support from the states, is likely, in the long-term, to improve services provided by these counties/cities/townships/borroughs.

4. DISCUSSION

The benefits of amalgamating local governments are as follows:

- Economies of scale allow for more services to be provided at a lower cost per household. For example, one council, rather than 38, representing a similar geographic area and a similar population size requires only one web-site rather than 38 web-sites. A quick review of the web-sites available illustrates that the Mornington Peninsula Shire web-site is of superior quality than any of the 38 web-sites within Indiana County. Few boroughs and townships within Indiana County have a web-site. For example, the Indiana Borough, the most populous local government in the County, does not presently have a website.
- Larger municipalities lead to a larger tax base and therefore allow each municipality to offer larger salaries thereby attracting higher quality employees/management. By way of comparison, the Mayor of the Mornington Peninsula Shire receives an annual salary of at least $57,500 and is reimbursed up to $20,000 for out-of-pocket expenses. The position of Mayor of Mornington Peninsula Shire is deemed to be part-time enabling the Mayor to maintain his/her fulltime job (Local Government Victoria, 2007). No information is readily available on the Mayor of Indiana Borough’s remuneration package. It is likely to be meager.
- A smaller number of elected seats on local government suggests that more candidates would compete for each position and therefore the winning candidate would be of higher quality.
- Larger local governments with more highly skilled personnel and larger budgets will be able to negotiate more effectively with state and federal governments and private corporations. That is, these larger municipalities obtain a more powerful bargaining position (Mackay, 2007).
- Where overlapping boundaries exist, amalgamations resulting in clear boundaries would reduce anomalies in this current double or triple government scenario.
- Within the newly formed larger municipality, areas that had been neglected by the previous council, due to insufficient funds, could have funds allocated to them to modernize the area. Using the Robin Hood approach, taxes from the richer neighborhood could be channeled into the poorer neighborhood so that the whole county improves. For example, after the 1996 amalgamation of the three local governments on the morning ton Peninsula, the poorer neighborhood (formerly the Shire of Westernport) had funds allocated to them from the richer neighborhood (formerly the Shire of Mornington) to build a modern indoor swimming center, thereby improving the quality of life, civic pride and land values for those living in the Westernport

area. Other neglected facilities in the area (e.g., sporting fields, libraries, parks & gardens) were also improved substantially. This equity issue could be regarded as the most significant benefit of council amalgamations.

The costs of amalgamating local governments could be regarded as follows:

- The larger local government loses touch with its citizens and the citizens no longer have the voice that they previously had in the smaller government. That is, the ratio of representative to constituent diminishes and a citizen is not personally knowledgeable of each representative and each candidate and therefore loses interest in the processes of local government (Dollery, Byrnes, & Crase, 2007).
- Many citizens would be required to travel further to attend meetings that were previously nearby and therefore, again, might lose interest in council proceedings (The Age, 2004).
- Many citizens could be required to drive further to comply with the legal requirements of the county (e.g., licenses & court hearings). However, satellite offices and the internet are means of minimizing this disadvantage.
- Transition costs as a result of neighboring municipalities merging are substantial (McKinley Douglas Limited, 2006). It is important in any state government initiated local government amalgamations that the state government funds these transition costs.

5. CONCLUSION

It appears through observation and research that there is a case for the Pennsylvania Government, and possibly other similar state governments of the US, to follow the lead of many other western nations and pursue local government reform through local government consolidations. This paper postulates that there are too many local governments and they are not maintaining the infrastructure or providing the services that their citizens are providing taxes for. Typically, the townships and boroughs represent too small an area and too few people and therefore collect too few taxes to perform their role efficiently and effectively. Furthermore, many of these small governments cannot arouse enough interest in the citizens they represent to find candidates for the elections. The population-size of Indiana County and the Mornington Peninsula are similar and it is argued that, as with the Mornington Peninsula Shire, Indiana County after a restructure could become the one and only government administering the county and it could do so more effectively and more efficiently than the present 38 incorporated governments. The states of Hawaii and Delaware have adopted this “county-only” government model. For example, the State of Hawaii has only four counties with no other formal government bodies within each county. The County and City of Honolulu elects nine councilors to represent its 900,000 population, or one councilor per 100,000 people (Hawaii Government, 2008).

Finally, it should be noted that the issue of local government consolidation can be a very personal issue for residents of the “proposed-to-be-consolidated” municipality, as it is that arm of government where their daily lives are touched and affected by government and it is that level of government, far more so than state or federal, that they feel they have the power to influence and make a difference (Bish, 1996). This feeling of attachment and ownership is very evident in the discussion taking place in areas that are presently seriously considering merging local governments (e.g., Queensland, Australia & Quebec, Canada). However, this paper proposes that, in the long-term (e.g., 10 years post amalgamations), the transition pain is forgotten and the citizens of the new larger municipality receive better services for less taxes.

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UNDERSTANDING PARENT CUSTOMER NEED: IMPLICATION FOR DEVELOPING UNIVERSITY SERVICES QUALITY

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ABSTRACT

Buyer behavior of higher education services in Indonesia is a complex decision making for student. They involve some role influencing how student selecting university. In order to select university for study, parent students have important role, particularly as influencer to student decision making. In some extent, parents can be the decision maker for their son in selecting university. The objective of the research is exploring the description of parent customer need and how they can be mapped based on their underline need factors. This research was undertaken using judgment sampling, and the data collection was conducted by direct survey. The survey was conducted in STIE Perbanas Surabaya, with 151 respondents. Statistical methods used in this research are exploratory factor analysis and cluster analysis. The finding of this research shows that there are five underline factors of parent needs. The factors consist of extracurricular activities, facility quality, learning activities, physical facility, cost, campus reputation, and faculty member quality. The other finding is there are four need groups of the parent customer. The groups are facility quality, campus reputation, learning process, and cost group. Managerial implications, particularly for developing and managing service quality of universities, are also discussed in this paper.

Keywords: *buyer behavior, influencer role, managing higher education, university service quality*

1. INTRODUCTION

Universities, as providers of education services, need to understand the buying behavior of consumers or prospective student, in order to determine how the improvement strategies of service quality and competitive advantage. Applicant buying behavior is reflected in how they seek and interpret information, make the choices and purchase of education services. Even this will also be reflected in how they behave in the post-purchase. By understanding the buying behavior and the all process of purchasing, universities will be able to determine how to do promotion, setting the tuition fee, develop distribution channel, and improve the quality of university services.

Purchase of higher education services is a complex decision making types of buying behavior. Complex buying decisions is the type of buying decision, where consumer have high involvement and involve the high brand differences in buying processes (Kotler and Armstrong 2008). With this type of decision, a candidate will be involved a lot in finding information about colleges that will be selected through various media, evaluating the various choices and finally decided to universities where they will study. In this model of buying, prospective students will also facing different colleges offer, so that they requiring the complex thinking and evaluation. Purchasing of college services will provide a high enough risk, both efforts and time costs would be borne by the applicants if they learn later.

Some role in the purchase of higher education services will involve several parties. The parties in the purchase of products can be categorized such as initiator, influencer, decider, buyer and user (Kotler and Armstrong 2008). Initiator in the purchase of higher education services are usually prospective students, influencers are prospective students friends, relatives, neighbors, teachers and parents. Decision makers are usually a prospective student and parents. Meanwhile, buyers and users are prospective students themselves. In this regard, the role of parents often become a critical, due to the educational services are essential for their son and daughter for success in the future.

Knowing the role of parents in college choice becomes essential for universities in Indonesia, due to the role of parents in the selection of universities for prospective students is still high. In some cases, parents become critical role in university selection for their son and daughter, but in some other cases they simply give consideration and influence. Understanding the parents who participate as parties in the university selection will also benefit for the universities, especially in order to determine the needs of higher education stakeholders. Knowledge about the needs and their behavior will become a reference for the development of quality higher education services.

This research has several objectives, including to determine the perception of parents of students to various aspects related to the selection of universities, to determine what the underlying factors of student parents for choosing university and to find out the groups of student parents based on the benefits sought in the selection of universities.

2. LITERATURE REVIEW

2.1.Buyer Behavior in University Services

An effort to enhance quality of University is conducted in many ways, in which one of them is how to create satisfaction through understanding the student buyer behavior. Studies of satisfaction in higher education have been seen from research conducted by many researchers. Martin at all (2000) found that graduates' satisfaction with academic resources, student support services, and the institution's development of competencies significantly predicted perceived employment preparation. Sohail and Saeed (2003) examine the satisfaction levels of students pursuing private higher education in Malaysia. Sanchez et.al (2006) examined the impact of a randomly assigned peer-mentoring program, coupled with a freshmen general orientation course, on the attitudes and behaviors of freshmen. Alves and Raposo (2007) have measured student's satisfaction with Portuguese higher education, through the estimation of an explicative model of the student's opinion formation process.

Consumer buying behavior is the buying behavior of final consumers who buy product for personal consumption. There are three aspect of model of buyer behavior, including marketing and other stimuli, buyer black box and buyer responses (Kotler and Armstrong 2008). For university marketing, marketing stimuli is all stimuli from university consisting of educational services offered to student candidate, tuition fee, location and promotion. In other hand, other stimuli is stimuli to student candidate came from macro environments, such as economic, technology, politic and cultural factor. All of the information from the stimuli enter to student candidate black box consisting of the candidate characteristics and how they process of buying decision. The process are turned into a set of observable candidate response including university choice, location, and purchase time.

There are four type of buying decision behavior, such as complex buying behavior, variety seeking buyer behavior, dissonance-reducing buying behavior, and habitual buying behavior (Kotler and Armstrong 2008). Buying decision for university services is included on complex buying behavior, due to the student candidate have highly involvement in a purchase of the services. They would seek information as much as possible, evaluate the choices, chose the best one, and sometime reevaluate the choices. It is important for them because university services is expensive, need big money, long time need, purchased infrequently and sometime highly self-expressive for candidate. On the university services purchased, the candidate also facing the reality that there are perceived difference among universities. It's mean, they need to compare all of services offered by universities.

Service quality for university is important aspect to be developed in order to attract and maintain student. Service quality could stimulate word-of-mouth communication and purchase intention (Alexandris et.al 2002, Smith and Ennew 2001). Student candidate usually explore the information of university through word of mouth communication as primary source of information and other media such as brochure, advertising or internet. The word-of-mouth communication is effective way for university to be developed in order to maximize communication impact to student candidate and public. Nowadays internet is also as primary media for student to get information they need.

2.2.The Role of Parent in Buying Decision.

The research involving parent's role in buying process can be traced from several studies. Darian (1998) conducted a study on in-store purchase behavior of parents and son and daughter in buying of children's clothes. The results of the study showed that the purchase behavior in which parents and children involved is high in the search the product, where the interaction is a collaborative. Parent evaluate the quality, price, practicality and style, and children evaluate the price, style and color. In this case, the product attribute called by parents and children is the quality, price, practicality, style, and color. Thus in this study, the parents and children work together collaboratively in making a purchase. Interaction roles of parents and adolescents in buying behavior can also be seen from the research conducted by Palan and Wilkes (1997). The study provides the identification and categorization of the influence strategies used by adolescents to influence family purchasing decisions. By using the interpretive analysis, there are seven strategies consisting bargaining, persuasion, emotional, request, expert, legitimate and directive strategy.

In regard to the role of parent on price perception, Clark et.al (2003) in a study of Generation X consumer, found that the higher the communication with parents and peers and see the media as a source of information, the higher the effect of price perception, or they will tend to buy products with lower prices. Ekstrom (2007), examining how patterns of consumption and knowledge transferred from child to parents in buying behavior. In this study indicated that children contribute in the form of information before and at the time of purchase, and thereafter by the helping to demonstrate to parents how to use the product. Children also often introduce new products to their parents and make them aware of new trends.

3. RESEARCH METHOD

3.1. Population and Sample Research.

Population is the total collection of elements about which we wish to make same inferences (Cooper and Schundler, 2001). Sample is group of cases, respondents, comprising of part of target population, carefully selected to represent that population. The research population is students parents of generation 2008 of STIE Perbanas Surabaya. Sample taken with judgment methods, namely by giving questionnaires to the parents of students and ask them to fill out questionnaires. Data collection was spread in the parents meetings held by STIE Perbanas Surabaya. The number of samples are 155 respondents of parents, with gender-based composition for 53.5 percent of male and 46.5 percent female. Based education, there are 44.4 percent of high school, 8.9 percent of the D3, 33.3 percent are S1, 4.4 percent of S2, and 8.9 percent other. Based on occupation, they are 21.2 percent were private employees, 23.2 percent are civil servants, 20.5 percent self-employed, 4.6 percent of retirees, and 17.9 percent were another, and 12.6 percent did not fill.

3.2. Operational definitions and Instrumentation

Benefit sought is something sought by consumers in choosing a university. Mapping conducted in this study is based on whether the benefit sought by the parents in choosing a university for their son and daughter. This research instruments based on the results of previous research and combined with the results of the pre-survey, resulting in 43 items of questions. Measurement scale used in this study is a Likert scale. By using a Likert scale, which measured variables are translated into sub-variables, then the variable sub-components are translated into measurable components, and made a point of departure to arrange the items in the form of a question instrument. Response of the respondents can be categorized into five, including "very important" by a score of one, "important" by a score of two, "normal" by a score of three, "not important" by a score of four, and "very important" with a score of five. Thus in this study the lower the score the more important item for the respondents.

TABLE 1.
SCALE, MEAN AND STANDARD DEVIATION

Code	Item	Mean	Std. Deviation
a1	*University size*	4.4	0.7
a2	*Lecturer quality*	4.9	0.3
a3	*Physical attractiveness of campus*	4.2	0.7
a4	*Distance of the campus from home*	3.7	0.9
a5	Lecture and student ratio	4.6	0.5
a6	*Campus location*	4.2	0.7
a7	*Variation of study time*	4.2	0.6
a8	Specialization of study	4.6	0.5
a9	Availability of religious activities	4.6	0.6
a10	*Quality of computer facilities*	4.7	0.4
a11	Hospitality of campus officer	4.5	0.6
a12	Attractiveness of brochure, pamphlet and admission catalog	3.9	0.7
a13	*Short-semester availability*	4.3	0.6
a14	*Students quality*	4.8	0.4
a15	*Internship program*	4.6	0.5
a16	*Campus reputation*	4.4	0.6
a17	*Laboratory quality*	4.6	0.5
a18	*Academic challenge*	4.4	0.6
a19	*Student union*	4.1	0.6
a20	Quality of class facility	4.5	0.5
a21	*Relationship with lecture opportunity*	4.6	0.5
a22	*Subject variation*	4.3	0.5
a23	*Library quality*	4.5	0.6
a24	*Alumnae reputation*	4.3	0.6
a25	Program for alumnae	4.2	0.6
a26	Scholarship availability	4.6	0.5
a27	*Availability of art and culture activities.*	3.9	0.6
a28	*Cost of study, book and others.*	4.3	0.7
a29	*Living cost*	4.3	0.6
a30	*Sport facilities*	4.0	0.6
a31	*Availability of sport and art event*	3.9	0.6
a32	University owner	4.4	0.6
a33	Where friends study	3.9	0.7
a34	*Internet access availability*	4.6	0.5
a35	Explanation of admission officer	4.2	0.6
a36	Fresh students	3.7	0.9
a37	Availability of social activities	4.0	0.6
a38	Relationship among students	4.3	0.6
a39	*Job opportunity after graduation*	4.9	0.3
a40	*All subject offered every semester*	4.2	0.6
a41	*Discipline in class*	4.7	0.5
a42	*Amount of student on every class.*	4.4	0.6
a43	*New books availability*	4.0	0.7

3.3. Validity and Reliability Test.

The purpose of measurement is the process of testing the validity of the items in question of the questionnaire, whether the content and the items in the questionnaire have measured what should be measured (Santoso and Tjiptono 2001). To estimate reliabilities, it used one estimated method or internal consistency by using alpha cronbach (Aswar 2001). The reasons are including the method were suitability to cross-sectional data, applicable for multi scales (Breakwell et.al 1995; Cooper dan Schlinder 2001), and the coefficient is the most frequently used in marketing research (Cortina 1993; Paterson 1994). A questionnaire or poll have been said reliable if the respondent's answer to the question is consistent or stable. The size of the reliability of an instrument can be seen on the magnitude of alpha (α) which the score ranging from zero to one, where the cut-off value of the alpha value is 0.6. Testing the validity and reliability of this research instruments showed that the coefficient alpha is 0.90, so that this instrument is said reliable.

3.4. Descriptive Analysis.

The first step of data analysis, the researcher conducted descriptive analysis of data on each indicators, to find out the holistic description of how perception of respondents to item. Table 1 shows the description of respondent's assessment on item, including scale mean and standard deviation. Based on Table 1 it can be seen the response of parents, the five things that have the highest score is lecturer quality (4.9), job opportunity after graduation (4.9), the quality of students (4.8), the quality of computer facilities (4.7) and discipline in class (4.7) . Meanwhile, the five items with the lowest score is distance the campus to home (3.7), fresh students (3.7), Attractiveness of brochure, pamphlet and admission catalog (3.9), availability of arts and cultural activities (3.9), and where friends study (3.9). Based on these, it can be seen that the main reason they chose the higher education institution was the quality of, primary lecturer, students and facilities and job opportunities and discipline.

4. ANALYSIS AND DISCUSSION

4.1.Factor Analysis

Data analyses were conducted by using of exploratory factor analysis and cluster analysis. Exploratory factor analysis were used to reducing data, so key factors of benefit sought can be found, and also can easier to understand. Before doing factor analysis, researcher examine the assumption in factor analysis using correlations of the data matrix (Hair.et.al 2006). From the visual inspection there are substantial number of correlation greater than 0.30 in the data matrix, it means the factor analysis is appropriate to be used. SPSS 11.5 was used for conducting exploratory factor analysis, by using principle component for extracted method, and varimax for rotation method. The result of the analysis representing benefit sought variables are outlined in Table 2. In order to examined benefits sought by parent students an exploratory factor analysis was conducted. First, a correlation matrix was computed and only those variables with high correlations with the others variables were included in the factor. In this step, 13 items were excluded and 30 items were entered into factor analysis. Eigen values and meaningfulness were uses as selection criteria for deciding how many factors were to be retained for later analysis. There were seven factor resulted from the factor analysis, including extracurricular activities, quality of learning facilities, lecturing, physical aspect of campus, cost, campus reputation, and lecturer quality and job opportunity.

Extracurricular activities factor represented sport facilities, availability of sport and art event, availability of art and culture activities, student union and relationship among students. *Quality of learning facilities factor* represent laboratory qualities, quality of computer facility, library quality, and internet access availability. *Lecturing factor* represent the aspect sought including internship program, variation of subject, new books availability, variation of study time, all subject offered every semester, relationship with lecture opportunity, relationship with lecture opportunity, and academic challenge. *Physical aspect of campus factor* are including physical attractiveness of campus, university size, campus location, and distance campus from home. *Cost factor* are represented by living cost, cost of study, book and others, and amount of student on every class. *The campus reputation factor* represent the aspect of campus reputation, student quality, alumnae reputation, and discipline in class. *And lecturer quality and job opportunity* are represented by lecturer quality, job opportunity after graduation and short-semester availability.

TABLE 2
FACTOR ANALYSIS

Factors (Rotation sums of squared loadings)	Items	Loading Factor
Extracurricular Activities (10.1 %)	Sport facilities	0.72
	Availability of sport and art event	0.71
	Availability of art and culture activities.	0.68
	Student union	0.67
	Relationship among students	0.58
infrastructure facilities (8.8 %)	Laboratory quality	0.72
	Quality of computer facility	0.70
	Library quality	0.66
	Internet access availability	0.58
Lecturing (8.3 %)	Internship program	0.66
	Subject variation	0.62
	New books availability	0.51
	Variation of study time	0.48
	All subject offered every semester	0.47
	Relationship with lecture opportunity	0.43
	Academic challenge	0.40
Physical Aspect of Campus (7.4 %)	Physical attractiveness of campus	0.74
	University size	0.70
	Campus location	0.53
	Distance campus from home	0.49
Cost (7.2 %)	Living cost	0.74
	Cost of study, book and others.	0.68
	Amount of student on every class.	0.54
Campus Reputation (6.3 %)	Campus reputation	0.64
	Students quality	0.57
	Alumnae reputation	0.53
	Discipline in class	0.49
Lecturer quality and job opportunity (5.7 %)	Lecturer quality	0.70
	Job opportunity after graduation	0.58
	Short-semester availability	0.49

4.2.Cluster Analysis.

After factor analysis was conducted on benefits variable, it was resulted factor scores. This scores were used as input data in cluster analysis. There were input data matrix consisted 155 x 7, in which 155 were representing the sum of respondents and seven were the sum of variables to be analyzed. Distant measurement used in the analysis was squared Euclidian distance. The clusters resulted were representing group having a close of Euclidian distance. Closer the distance means higher the similarity of variables. A cluster analysis procedure was conducted based on seven benefits factors. Two clustering methods were employed in order to develop reliability and validity. Hierarchies' procedure at first steps was conducted to find the appropriate sum of cluster. The method used was ward's method. In term of the sum cluster used in further analysis, researcher conducted based on degree of cluster spread. The second steps of cluster analysis were non-hierarchies procedure used to shape the result of cluster. In order to make interpretation the cluster resulted from analysis, it was determined the final mean cluster.

TABLE 3
CLUSTER CENTER

Factors	Facilities Quality (37%)	Campus Reputation (17%)	Educational Process (34%)	Cost (11 %)
Extracurricular	-0.642130	-0.092440	0.751572	-0.189950
Infrastructure quality	0.351880	-0.787020	0.192697	-0.088680
Lecturing	-0.476690	0.256013	0.549125	-0.276610
Physical campus qualities	0.328767	-1.360360	0.389453	-0.197730
Cost	0.102392	0.180675	-0.191610	0.420477
Campus reputation	0.067289	0.457748	0.016415	-0.836570
Lecture and job opportunity	0.288622	0.331653	0.207235	-2.108790

Table 3 shows four groups found from cluster analysis. The first group, have highest cluster center on infrastructure facility (0.328767) but lowest on extracurricular -0.64213, so that called as *facility qualities group*. The second group is having highest cluster center on campus reputation (0.457748), lowest on physical campus qualities (-1.36036), so that it's called *campus reputation group*. The third group, called *educational process group*, have highest cluster center on extracurricular (0.751572), but lowest on cost (-0.19161). The last group is having highest cluster center on cost (0.420477), but they has lowest on lecture and job opportunity (-2.10879), so that it's called as *cost group.* Facilities quality group is the biggest group, representing 37 percent of the sample, followed by educational process (34%), campus reputation (17 %) and cost (17 %).

FIGURE 1.
BENEFIT SOUGHT CLUSTER

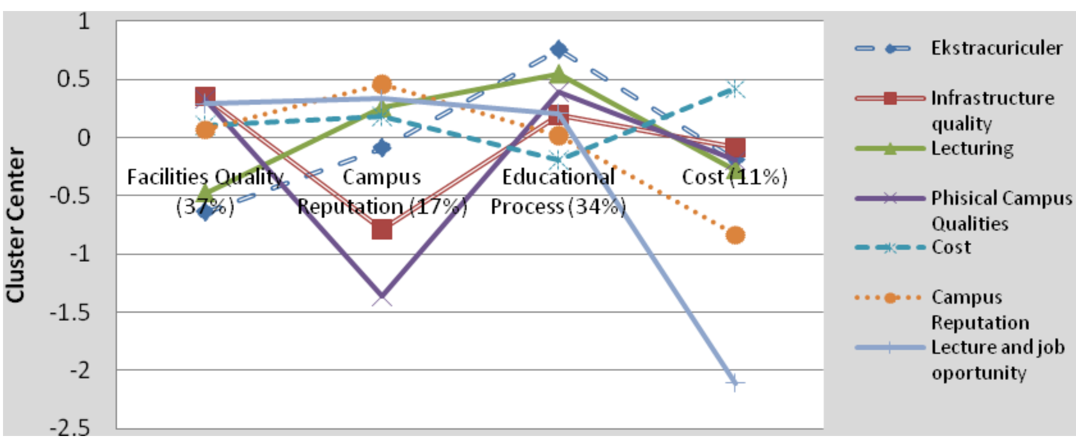

Figure 1 outlined description of clusters consisting a final cluster center, sum of cluster and seven benefits factors sought by parent students. Profiles of the benefit sought groups of parent students can be seen from same aspects. From gender point of views, the male parents are grouped most on facility quality group (24.6%), and least on cost group (7 %). In other hand, the female parents are grouped most on educational process group (23.9%) and least on cost group (2.8 %). Based on the education, those who the education is high school are more on facilities quality group (16.3%), and educational process group (15.6%). In other hand, for bachelor degree are mostly on facilities quality group (14.8%), and educational process group (11.1 %). From occupation aspects, non government officer (pegawai swasta) and government officer are most on educational process group, and for entrepreneur are most on families quality group (10.6 %).

4.4. Discussion

Based on the statistic analysis in this study, there are four groups of student parent classified by benefit sought for selecting university for their son and daughter. The biggest groups of student parent is facilities quality group, namely they are student parent who considering mostly on infrastructure quality, physical campus qualities, but they less considering lecturing and extracurricular activities. The dominant characteristics of them are mostly male and from entrepreneur or having own business. The group interpreted quality of higher education is from physical aspect such as university size, physical attractiveness of campus, campus location, laboratory, computer, library and internet access. Although they are concern to the physical facilities, they are less concern to internship program, subject variation, new book available, and the aspect of lecturing.

Also, they less concern to sport, art, culture activities, and others aspect of extracurricular activities. In order to convince the type of group to buy education services, university need to expose the physical quality in communicate with them. Brochure, advertising, website, and all of communication media of university needs to use physical aspect as attractiveness. The second biggest group is educational process group. The group is student parent who considering the aspect of extracurricular activities, lecturing, but lest considering the cost of study in selecting university for their son and daughter. They need for their son and daughter have activities such as sport, art, and culture activities, relationship with others student. Also, the group most concern to lecturing activities such as internship program, subject and time study variation, availability of every subject academic challenge, and relationship with lecturer. The characteristic of the group are from female and civil servant. Largest numbers of private employees are in this group. University need to know the buying behavior

Other groups are campus reputation and cost group of student parent. The campus reputation are the parent who considering most on reputation, and lecture and job opportunity, and considering lest on infrastructure quality and physical campus qualities. This description showed that the group needs university concern and consistently maintain reputation, lecturer quality and job opportunity. The cost group is the student parent who very concern on cost of study, but lest concern to lecturer and job opportunity and campus reputation. This group is the most sensitive price customer in university. Serving them means how to make tuition fee lower, due to cost of study is most important for them.

For further researches, the study recommends to confirm with other demographic and psychographic data of student parent. It is important in order to explore holistic aspect of parent need and the role of parent in selecting university, particularly to find out the description of the role of every party in buying behavior in buying university services. The finding needs to reconfirm with student need and behavior, to know how they decide the university choice for their study. The holistic view of buying behavior of university services will be found, and guide university to make strategy to attract new student.

5. CONCLUSION AND LIMITATIONS

In summary, seven factors underlying of benefit sought by parent students were identified, including extracurricular activities, quality of learning facilities, lecturing, physical aspect of campus, cost, campus reputation, and lecturer quality and job opportunity factor. This study also found four groups of parent students based on the factors, consisting facility qualities group, campus reputation group, educational process group and cost group. Each of groups has different characteristics, particularly relating to gender, education, and occupation. There are several implications that can be derived from the research finding, particularly for the university where study was done. The university needs to develop program that suitable with the parent student as university stakeholder, particularly in term of managing campus facilities, building reputation, developing educational process, and setting the tuition fee.

Finally, several limitation of the study should to be taken into consideration in evaluating the result obtained. A purposive sample of parents students was used in the study will effect on the degree of generalizability of the finding. It is advisable for further research to use more sophisticated sampling technique, such as probabilistic sampling to enhance the predictive ability of result. Furthermore, the limitations of amount of respondent tend to limit the holistic view of population as well as the ability of statistic analysis. The stability and predictive ability of statistic analysis is important aspect to research. The further researches need to maximize the respondent in order to increase stability and predictive ability of result.

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WOMEN ENTREPRENEURSHIP IN ICT SECTOR: A CASE STUDY OF GHANA

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ABSTRACT

This paper attempts to identify the key challenges and motivational factors of women entrepreneurs in the information technology sector in developing countries, with emphasis on Ghana. The study was conducted in two phases. The first phase attempted to identify the motivational factors, key challenges and solutions of women entrepreneurs in general and those in the ICT industry in other parts of the world. This was done by reviewing literature of other works that have been carried out in this area of study. The second phase focused on profiling the personal life and business of one female entrepreneur in ICT who has established a consulting firm aimed at training kids and adults in IT. A single case study approach was adopted for this study and was collected through face-to-face interview with the entrepreneur. Analysis and discussion was done by comparing motivational factors and challenges identified in the literature review with that of the female ICT entrepreneur profiled. The focused interview identified motivational factors such as passion, flexibility and independence, drive to achieve something for oneself and challenges such as staffing, managing the office as well as the home and competing with well-established ICT training institutes.

The paper is one of the important studies taken in the context of women entrepreneurship in ICT in Ghana. There exists a few of such studies that have been undertaken in the past that assess women entrepreneurs in ICT in this context. Proper attention to the issues raised and conclusion has brought out awareness of such individuals in the region to attract the necessary support from governments and NGOs.

Keywords: *ICT Entrepreneurship, Women in ICT, Gender bias careers*

1.0 INTRODUCTION

Information and Communication Technology (ICT) drives the business of today's world. "The advancement in ICT has had influences on globalization, the production and sharing of information and knowledge, the conduct of transactions and delivery of services in both small to medium size enterprises (SME's) and large enterprises (Sprano and Zakak, 2002; Boateng *et al.,* 2008).

Undisputedly, ICT the world over is recognized as a male dominated field career-wise. This notwithstanding, women have ventured in this area of career in developed countries and have succeeded. In the last decade or so, ICT has become a growing area of business in Ghana. The development has led to the emergence of entrepreneurs in the hardware, software and internet service provision areas of the ICT market. Traditionally, men have dominated entrepreneurship in Ghana especially in the areas of engineering or the sciences which is also the case of the emerging ICT sector in Ghana. The reason can be traced to girls not being given equal opportunities at the secondary and tertiary levels of education, but rather prefer them studying word processing to become secretaries (Owusu-Afriye, 2002). Despite these setbacks, the increasing level of literacy among Ghanaian women has contributed emergence of a few Small and Medium Scale Enterprises (SME) in ICT by women.

Some scholarly works that have been carried out in the area of women entrepreneurs in ICT include; Malaysia women entrepreneurs (Ndubisi and Kahraman, 2005), women ICT professional's perceptions of working in the Australian ICT Industry (Timms *et al.,* 2008), and the impact of ICT on women development in Ghana (Owusu-Afriyie, 2003). Works that have looked at women entrepreneurs on the other hand include women entrepreneurs in Cyprus (Nearchou-Ellinas and Kountouris, 2004), and entrepreneur women and private capital (Bruin and Flint-Hartle, 2005). All these studies concentrated on different aspects of women entrepreneurs in ICT other than what this study is about.

The main question this paper answers is, "What factors drive women ICT entrepreneurs in developing countries"? There is more room for knowledge since very little research has been done in this area. The paper begins with a brief literature review on women entrepreneurs, women entrepreneurs and ICT, their challenges and solutions, followed by profiling of a female ICT entrepreneur in Ghana and then finally analyzes her drives, challenges and solutions to that of other women entrepreneurs in the world at large.

2. LITERATURE REVIEW

We review the concept of entrepreneurship, research on women entrepreneurs, women entrepreneurship in ICT, the challenges and solutions globally. This will aid us link motivational factors and challenges of women entrepreneurs from other countries to that of Ghana.

2.1 Theory of Entrepreneurship

The entrepreneurship field of research is still in its development and considered interdisciplinary and multidisciplinary (Davidson, 1989), as various writers from all fields of social sciences have contributed to this field. Though, it is a popular and relevant subject, there is no acceptable universal theory that defines with exactness the field of involvement on entrepreneurship, instituting its origin on the intertwining set of approaches proceeding from other areas of knowledge (Virtanen, 1997). Since, this study will profile the life of a woman-owned ICT firm, it will be proper to approach entrepreneurship centered on the individual. The entrepreneurship role can be looked at using the perspective of two important theories: economic theory and empirical theory.

In the context of economic theory, the economists have a propensity to concentrate more on the functions than on the person and emphasize more on the macroeconomic meaning of entrepreneurship (Kirzner, 1983). Baumol (1983) distinguishes two legitimate roles, but in completely different conditions. The entrepreneur is:

- "The one who creates and, perhaps, organizes and operates the start-up firm, whether there is something innovative on such acts or not; and
- Someone who transforms ideas and inventions in economically viable entities, whether he has created a business or not" (Raposo *et al.* 2008).

With empirical theory on the other hand, the expression "entrepreneur" is mainly connected with the start of a new commerce or a small business management (Veciana, 1980). This theory sees the entrepreneur as the person who conceives the business idea, starts the business and ensures that it continue to exist for years. The pattern of this theory centers on the person that tries to start a business, this is, the individual who originally gathered the resources needed to commence the business. In a nut-shell, entrepreneurship is a unique process on economic and organizational functions and starts with an act of human zeal (Hofer and Bygrave, 1992).

2.2 Women Entrepreneurship

Throughout the world, business entrepreneurs are considered to be very important for economic growth and social renewal (Cantzler and Svante, 2007). Entrepreneurship has become an important profession among women in today's world and contributes immensely to economies of various countries as well as providing employment. It's also serving as a platform to empower women economically, socially and politically (Mayoux, 2001). The modern day woman has now taken the mantle and is seen prominently in areas which a few years ago were described as a "no go area" for women. For instance, businesses owned by women contributes £50-70 billion to gross value added to UK economy each year according to a study conducted by a UK Small Business Service (Carter *et al*., 2001). Due to its positive impact on various economies, women entrepreneurship has been gaining increasing attention around the world (Davidson and Burke, 2004). This is evident in efforts by governments and academics encouraging women entrepreneurship as it symbolizes innovation and serves as a major force for job creation (Orhan and Scott, 2001; Hisrich, 1990). A study conducted in Greece by Sarri and Trihopoulou (2005), identified the following as some of the policies put in place to support women entrepreneurship; "the Equal Community Initiative, the Program of Aid for Female Business Establishments, EPAN of the Ministry of Development, programs of financing women as "new professionals" from the Organization for the Occupation of the Work Force, and The Ergani Center (Center for the Promotion of Employment and Entrepreneurship of Women), the only structure at a national level that supports female entrepreneurs in a systematic mode." Similar mechanisms have been put in place in other countries across the globe. These supports have propelled the growth of women-owned business greatly across diverse sectors of activity. A study in Cyprus by Nearchou-Ellinas and Kountouris (2004) established that eighty-three percent of women-owned companies are active in five sectors of activity, which are considered to be mainly traditionally "feminine": the clothing and shoe industry, the medical and paramedical professions – mainly as pharmacy owners, the kiosks and mini markets, the trade of gifts and hairdressers and florists. However, businesses springing up in our localities and cities show that women are venturing into service provision businesses such as ICT.

2.3 Women Entrepreneurship in ICT

For the purpose of this discussion women-owned ICT and women running ICT firms would be seen as one since they perform almost the same roles and also due to inadequate literature on women who own ICT firms. Various literature documenting on the ICT industry have suggested low patronage of women in the field. This is as a result of a "boy's club" atmosphere operating within many branches of the ICT industry (Berg *et al*., 2002). This atmosphere often actively devalues or belittles social skills possessed by women rendering them uninvited. The above statement notwithstanding, a research conducted in Australia by (Timms *et al.,* 2008) identified that of the 272 women who responded to the women in ICT industry survey, 178 identified themselves as working in the ICT industry, the remaining 96 women worked as ICT professionals in other industries, such as education or finance. As much as women have positive attitude and experience with ICT some have doubts about some aspects of ICT and its impact on everyday life. Another study conducted on women's perception of working in Australian ICT industry also established that women agreed that a career in ICT is rewarding and provided them with opportunities and disagrees with prevailing negative stereotypes about the industry (Timms *et al*., 2008). Women in recent times are seen taking careers in all sectors of the ICT industry in developing world. This is evident in a study conducted by Martin and Wright (2005). Most women who took part in the study were web designers, hardware technicians and software developers who either owned the firm or run it as a co-partner. Six participants of that study had also established web-base businesses.

2.4 Motivational Factors for Women Entrepreneurs

Due to the importance of this subject, a great deal of research into women business owners has concentrated on what motivates them to start up business operations. There are numerous theories and separate concepts of job motivation, the main differences lie on the fact that they are centered on different motivational processes (Davidsson and Wiklund, 1999). Most surveys found quite similar motivations with independence and the need for self-achievement always topping (Hisrich, 1990). Flexibility in terms of hours worked is also identified as another notable factor encouraging female entrepreneurship (Orhan and Scott, 2001). The theories most commonly applied in research on entrepreneurship are McClelland's (1961) theory of the need to achieve, which suggests that individuals with a strong need to achieve often find their way to entrepreneurship and succeed, and Rotter's (1966) locus of control theory, which can be seen as either internal or external control expectation. The internal control expectation is connected to learning and as a result motivates and supports vigorous go-getting, while the external control expectation obstructs learning and gives confidence to passivity. The former is normally linked to entrepreneurial characteristics (Littunen, 2000). Women business owners tend to like the flexibility in running their own work since it allows them to play their motherly role alongside earning income.

Women entrepreneurial motivations have been categorized into two factors, the pull and push factors (Brush, 1999; Buttner and Moore, 1997). The push factors are elements related to a need for independence, need for achievement, financial reasons, personal development, self-fulfillment, social status and power (Hansemark, 1998; Glancey *et al*., 1998). On the other hand, the pull factors are related to necessities such as unemployment, glass ceiling, redundancy, recession, financial reasons (inadequate family income), dissatisfaction with being employed, or the need to accommodate work and home roles simultaneously to the call for independence, self fulfillment, entrepreneurial drive, social status and power. Based on the two categories above, women go into entrepreneurship for the flexibility of work schedule to enable them perform both their business and mothering role which at the long run gives them financial satisfaction (Brush, 1999). In taking into consideration the most vital motives that have inspired women to become entrepreneurs, it could be said that it is a combination of pull and push factors in such a way that women are more "pulled" than "pushed" to create their business. Despite the fact that motives differ depending on the country, time period, and group of women, the prevalent trend in most European countries is pull factors (Orhan and Scott, 2001) whiles most women in developing countries are also motivated by the push factors (Woldie and Adersua, 2004).

Aging women enter into entrepreneurship to overcome ageism. An argument by Mckay (2001) concluded that, women establish their own business due to a range of factors such as keeping active, building self esteem, esteem stability and augmenting one's income among others. She went further to say that, through entrepreneurship women build their self esteem in order to make them feel important and capable of useful work. The income earned is also used to maintain life style in the case of husband loss.

2.5 Challenges Faced by Women Entrepreneurs

Women have now been recognized as successful entrepreneurs as they have qualities desirable and relevant for entrepreneurship development. In the process of entrepreneurship, women have had to face a variety of problems associated with entrepreneurship and these problems get doubled because of their dual role as a money maker and a homemaker. Depending on the part of the world the person is located; women entrepreneurs face different but similar problems.

Earlier studies have shown that in the United States women-owned businesses face problems such as access to capital, information and networks, women business owners in Korea experience financing and the problem of balancing work and family, and among other difficulties, women entrepreneurs in Indonesia have difficulties in exporting their product overseas (Gordon, 2000 in Ayadurai, 2004). Another dominant problem is lack of confidence in female business owners' abilities to succeed on the part of banks, suppliers, and clients alike due to comparison with male-run businesses. Right after start-up women entrepreneurs face a problem of marketing, labor difficulties as well as the tension caused by the dual responsibility of managing a business and maintaining a family (Maysami *et al.,* 1999).

Elsewhere in the developing world, women entrepreneurs face challenges such as, competition from well established male-dominated enterprises, lack of accurate information, support, and finance for expansion, risk-taking propensity, domestic commitments, and stereotyping among others (Ayadurai, 2004). This, coupled with lack of knowledge on business management, inadequate resources and support mechanisms from spouses are adverse limitations. Four main obstacles identified by Hookimsing and Essoo (2003) faced by women entrepreneurs in Mauritius include: the hassle of getting permits, the lack of market, the ability to raise capital and women not being taken as seriously as men. The other challenges affecting the success of women entrepreneurs include: need for effective communication to negotiate/bargain favorably, management of debtors, proper record keeping and issues to do with domestic matters such as balancing a woman's role in the home and the enterprise expectations. Lack of sufficient education and training for women and age discrimination are other impediments to success as identified through a research on Nigerian women entrepreneurs by Woldie and Adersua (2004).

2.6 Solution to Challenges Faced by Women Entrepreneurs

There is a need to overcome these problems in order to tap the productive potential of women and to enhance their contribution to economic development. However, studies that have been conducted in this area have concentrated on motivations and challenges than solutions. Some proposed solutions to these challenges include; encouraging partnerships with governments and non-governmental institutions to promote the establishment of an enabling environment for women entrepreneurs, and to provide women with the services they require including financial capital and skill development (UNIDO, 2001). In Ghana, some non-governmental organizations such as Adventist Development and Relief Agency (ADRA), Empretec, World Visions (WVI), National Board for Small Scale Industries (NBSSI) are among some of the agencies providing financial support to women entrepreneurs.

3. METHODOLOGY

A case study technique was adopted since the research targeted women who own ICT firms in Ghana. A single case study approach was appropriate since the study concentrated on profiling the life and business of a woman entrepreneur in ICT. A case study allowed us to have a good understanding of the business circumstances, perceived barriers to growth and the personal contexts of her entrepreneurial drives for success. It also provided us with a flexible approach to data collection such as a face-to-face interview which allowed us to ask pertinent questions relating directly with her methods of operation and also examine the business closely (Hill and Wright, 2002). The case study method allowed the female entrepreneur to express herself freely in her own language which helped us gain more vital information needed for the study.

The woman-owned ICT firm involved was selected base on the availability of the CEO since most companies contacted responded in the negative to our request. Moreover, women-owned ICT firms in the country are a hand-full so we did not have the luxury of casting our net wide. Critical attention was however given to the number of years that company has been in existence which was a minimum of 2 years in our case and the sector of ICT industry the firm operated in.

Data was collected from two different meetings through semi-structured interviews of both owner and her husband of the female owned ICT Company involved in this study. These interviews was recorded and transcribed. The objective of these interviews was to bring out the understanding of female ICT entrepreneurship, her motivations, aims and aspirations for the future and her experience of entrepreneurship to date, challenges and solutions to the encountered challenges. The participant was made to identify key projects that she has undertaken since the inception of the firm, stages and critical incidents given the value of her technique in exploring entrepreneurial learning and innovation (Cope and Watts, 2000; Martin, 2003), her access to finance, marketing issues and business challenges.

Two interrelated IT business ventures - TechyConsult and Tech Kids - owned by our selected entrepreneur was our main case of study. TechyConsult provides services of expert IT and management career training and consultancy. TechKids, which is a subsidiary of TechyConsult, offers after school computing and foreign language (Chinese and French) training children between the ages of 5-16. We examined the typical service lifecycle begins with enquires by the customer, through assessment (in the case of the kids), registration and payment of fees, going through various stages of the course, examinations and feedback (from human resource departments in the case of corporate bodies). The courses are designed to involve students to the full, ensuring active learning and enabling people to reach their potential in the career world. The courses usually take 5-15 months, and classes are held during the week, day time or evening and weekends (two hours a day, once a week). Their lectures include faculty members and accomplished business executives from some top private Universities in Ghana and Abroad. All diplomas and certificates are awarded by the respective institutions who administer the examinations.

The objectives of TechyConsult are to train and equip people with skills needed for business use of technology and for the kids to grow up with good IT skills. Apart from training, TechyConsult offers consultancy in project management, business analysis and user acceptance testing, backup services for SME’s, Intranet and website development, oracle database installation, customized training for companies and system Testing and corporate Networking. TechyConsult has corporate bodies as its main clients as well as parents of both Ghanaian and foreign kids. The company advertises mainly through its website and the local dailies.

The chief executive officer (CEO) of TechyConsult Limited, Mrs. Asare, is a Microsoft systems engineer with more than ten years of experience in working in Ghana and UK. Before setting up TechyConsult in Ghana, she setup her own consulting firm in IT in the UK, focusing on system analysis and project management. Her clients included: Cable & Wireless, a telecommunication firm, United Bank of Switzerland, Unison and Argos plc. TechyConsult is currently not a member of any association but the CEO has plans of establishing one in Ghana for Women in ICT and project management.

The firm currently have twelve laptops for the executive training and twenty desktops for the kids, a telephone line, a printer, a mobile line (CEO), fax machine, broadband internet connection from a local ISP which can be accessed by everyone thought a wireless router and a website (www.techyconsult.co.uk) which is updated very often. It also has a staff strength of three permanent and seven part time workers, two networked computer labs and one all purpose lecture hall. The firm operates from the extension of the owner's residence, a spacious and well furnished building which accommodates its one visitor's lounge, two offices, two computer labs and one all purpose lecture hall. The company won the award for the best SME stand at a local industry and technology fair for SME's in 2005. Table 1 shows the financial profile of TechyConsult Limited. It demonstrates that IT entrepreneurship is a profitable venture since TechyConsult is able to increase its profit year after year.

TABLE 1 FINANCIAL PROFILE OF TECHYCONSULT LIMITED FOR SIX YEARS

	2003 USD	**2004** USD	**2005** USD	**2006** USD	**2007** USD	**2008** USD
Turnover	52,158.53	57,270.06	58,129.11	64,523.32	69,685.18	75,260.00
Direct Expenses	17,328.92	18,541.94	21,323.23	23,668.79	25,562.29	27,607.28
Operating Expenses	19,399.83	20,757.82	23,871.50	26,497.36	27,371.00	29,560.68
Net Profit	15,429.77	16,509.86	18,986.33	21,074.83	37,934.70	40,969.47

3.1 Business Start-up

The idea to setup this business was conceived when Mrs. Asare completed her master program and started working in the UK in 1995. She identified the ease with which children and the youth in the UK used computing technologies. From her savings she conceived the idea set up an IT school for kids in Ghana. In 2003 she decided to return to Ghana to set up TechyKidz with the aim of training Ghanaian kids to be good with the computer before they grew older. Upon her arrival she made enquires about existing firms which were into training of kids in ICT and realized they were non-existent. This gave her the urge to carry on with her project with educating Kids in IT. This gave birth to TechyKidz, the genesis of TechyConsult. The CEO states that:

"till today she has not come across or head of any institution in the country that concentrated on educating kids as young as 5 years of age in the area of IT".

This makes TechyConsult the only firm in the city currently running this unique program for kids. This is evident in the invitations TechyKidz has received from local non-governmental institutions to open a similar training centers in other cities in the country. She began with twenty computers which she purchased from England. The company placed a number of advertisements in the newspapers, distributed flyers, posters and banners all over Accra to attract customers.

The few people who became aware of her company and showed interest were given price discount as an incentive to gain their loyalty. Gaining the customers loyalty increased her customer base through referrals and recommedations. She brought in foreign teachers from U.K who were dedicated to training the kids and this brought about some popularity because of their unique style of teaching. In 2004, TechyKidz participated in AITEC, a conference which was organized for people in the ICT sector.

Techykidz trained kids as young as the age of 4 years depending on the level of maturity to kids who are 15 years of age. The classes were divided into four main streams namely: Starters for ages 5-7 yrs, Bronze for ages 8-10 years, Silver 11-12 years and Gold class with ages of 13-15 years. The classes normally took place on Saturdays with the various classes rotating between the two rooms. Summer schools were organized for the Kids during their long vacations. Leaflets, flyers and notices were sent to various schools to inform them about the summer school. In 2004 TechyKidz introduced computer games (Sony Playstation) for the kids, and it was the only company offering computer games at that time, this attracted other kids who were not taking any ICT classes. This also served as a way of advertising since kids that came to play video game but not IT training later convinced their parent to join the IT school.

As the customer base grew she moved into bigger premises in 2005 and introduced the adult courses TechyConsult) together with that of the kids. This was as a result of persistent pressure from parents of the kids to introduce IT training for adults since some of the kids had started helping their parents in their businesses through Microsoft Office Applications. This subsequently gave birth to the executive section which specializes in delivering project Management courses (PRINCE2) and core Microsoft Office Essentials for Business. The name of the company thus changed from TechyKidz to TechyConsult which it has been operating with till date.

3.2 Major Project

The company (TechyConsult) since its inception has undertaken quite a number of remarkable projects for some selected and reputable organizations within Ghana. Among these organizations are Ghana Ports and Harbors Authority (GPHA), Merchant Bank, Standard Charted Bank, Ghana Highways, British Council, Vodafone, Volta River Authority (VRA), and Ghana Commercial Bank. Currently the company has been contracted by Vodafone, a major telecommunications company to train all its project managers in project management.

Besides all these projects that run for short periods, Techykidz (IT training for kids) which actually gave birth to the company has been its longest running and major project since 2003 to date. The ages of kids that enroll in the program ranges from five years to fifteen years of age and are placed in the following classes depending on their ages and level of knowledge in IT;

- starters (age 5-7),
- bronze(age 8-10),
- silver (age 11-12) and
- Gold (age 13-15).

Each class has three different levels; level one for beginners, level two for intermediate and level three for advanced. It costs each child $100 per the term (includes books and external examination fee).

The training takes place during the kid's school terms in the year on week days after school, from 4pm to 6pm and or weekends especially Saturdays, from 8 am to 2pm. The course for each class lasts for a year which constitute the three academic terms of a school's calendar. At the end of the year, the kids take the University of Cambridge Certified Examination for ICT starters which take place at the British Council. The British Council sends the exam papers through DHL directly to University of Cambridge, U.K for marking. After two weeks, the results of the exam are sent to TechyKidz. The grading from the University of Cambridge is either merit or pass. Merit is excellent or good work, and pass is an average. When a kid passes, he or she moves to the next level and that is how it runs till the kid gets to the advance level of the gold class. Kids at the third level (advanced) gold class are allowed to take some adult courses depending on their performance in their final examination.

Apart from training in IT skills, Techykidz had extra classes for kids in Maths, English, Science, French and later Chinese was introduced. People were not patronizing the Chinese, and this was a challenge because, the kids felt the language was difficult to learn and also the Ghanaian parents didn't see the need for the Chinese language. Subsequently the Chinese language was cancelled from the project.

During long vacations, Techykidz organizes summer school for the kids. The kids come on weekdays from Monday to Friday, 9am to 1pm. This is designed to keep kids busy during the holidays and it is also good for parents who do not have anything for their kids to do during the holidays. The activities entailed in the summer school are, training kids in IT skills, Maths , English and French and lastly kids get the chance to learn and play computer games like Mavis Beacon for typing, Sony Playstation, Nintendo-AND Game boy (see Figure 1).

FIGURE 1: A SECTION OF THE KIDS IN THE COMPUTER LAB.

4. DISCUSSIONS

This research has looked at a woman entrepreneur in the ICT sector in Ghana. The study focused on a single case of TechyConsult Limited with that outlined above.

4.1 Motivational Factors

Flexibility and the freedom came up as one of the main motivators for the CEO. In the words of Mrs. Asare:

"My main motivator was, firstly, to equip the youth, and secondly, freedom to do what I want to do at my own pace. This kind of freedom cannot be obtained when you work under someone. And so it was mainly because of freedom … money was not my prime motivator."

This supports what Orhan and Scott, 2001 stated, that flexibility in terms of hours worked is also identified as another notable factor encouraging female entrepreneurship. Women business owners enjoy flexibility of their work because it allows them to play their motherly role alongside earning income. She wanted to achieve something for herself and didn't want to work for anyone and be able to take holidays as and when she wanted. She could have achieved her dreams by working for top companies in the United Kingdom as she was before coming to down to establish TechyKidz but at the same time wanted to have time for herself and family.

TABLE 2: SUMMARY TABLE OF MOTIVATIONAL FACTORS FOR THE CEO

Flexibility and Freedom	Allows her to go about her duties with ease in her roles as wife, mother and CEO without restrictions.	Lesson: This portrays the independence and need for self-achievement.
Pull and Push Factors	The CEO is motivated more by the Push factors (need for independence, need for achievement, financial reasons, personal development, self-fulfillment, social status) rather than by the Pull factors (necessities such as unemployment, glass ceiling, redundancy, recession, financial reasons).	Lesson: This is in harmony with Woldies and Adersua 2004 who theorized that most women in developing countries are motivated by the push factors)
Motivation by Passion	The CEO was moved by the way she saw how easily some young adults handled the computer and so wanted to give children an early exposure.	Lesson: This has revealed that *passion* is another instrumental motivational factor to starting a business.

Lesson 1: *The point that has been raised above portrays The CEO's independence and her need for self achievement as indicated by (Hisrich 1990; McClelland 1961). This can push women to venture in entrepreneurship and succeed.*

From the literature, women entrepreneur motivation has been categorized into two factors: Push and Pull factors (Brush, 1999; Buttner and Moore, 1997). The push factors elements are: need for independence, need for achievement, financial reasons, personal development, self-fulfillment, social status. The pull factors are related to necessities such as unemployment, glass ceiling, redundancy recession financial reasons (inadequate family income). Examining the elements of both push and pull factors, it is suggestive that Mrs. Asare falls more into the push factors since she established the business due to the need for independence, and the need for achievement. This supports Woldie and Adersua 2004 theory that most women in developing countries are motivated by the push factors. Although she did not place money as a major factor, she did not also rule it out. She agreed that though she has not become excessively rich out of the business, the business has gone a long way to support her family income.

Lesson 2: *Based on the push factor, as exhibited by the CEO, one may still want to self actualize.*

The CEO was also motivated to setup TechyConsult based on a passion she had developed from working in the United Kingdom. She intimated that:
"When I was working in England I realized that the people I worked with were very good in IT – the young boys, who were in their early and mid-20's and so I kept on asking them how come they were so good at the use of the computer … and it was like, because they were exposed to IT at a very early age. So I asked myself why a similar thing could not be done for our kids. And so basically that's how come I started with TechyKids".

Thus her passion to make children grow up to become IT giants served as a springboard in establishing TechyKids. This aspect of motivation by passion can be regarded as one of the reasons why many entrepreneurs emerge.

Lesson 3: *Mrs. Asare's attribute of passion for achievement has led to the finding of another motivational factor that drives an individual to start a business – passion.*

4.2 Challenges of Women Entrepreneurs

TABLE 3: SUMMARY TABLE OF CHALLENGES OF WOMEN ENTREPRENEURS

Challenge of Multiple Roles	The CEO, as a married woman, had to combine both domestic affairs with that of the corporate world. This, however, did not pose much of a problem to her due to support from her family.	Lesson: Most women entrepreneurs in Ghana do not really face this problem because of the extended family in Africa. There are always family members to assist in the running of family errands.
Problem of Staffing	The CEO mentioned staffing as her major problem, stating that it is difficult to recruit committed and competent people to work with.	Lesson: Bad working habit has been identified as one of the major setbacks in businesses.
Challenge of Inferiority Complex	In developing countries, women are not treated with seriousness, and are seen as *weak stems* who cannot thrive without the support of their male counterparts. According to Mrs. Asare, she does not encounter such a challenge that much, but it's rather the reverse – the men wish to be taught by her.	Lesson: Being a woman should not limit one from pursuing one's dreams since established challenges could work to one's advantage.
The Challenge of Existing Competitors	Well established IT training institutions posed as an industrial threat to Mrs. Asare at the initial stages, but with time she was able to overcome the challenges in a strategic manner.	Lesson: In order to blend with the current system of events, or even soar higher, one must introduce something new so as to beat existing competitors.

Having qualities desirable for entrepreneurship, she faced a number of challenges. The dual role of being a money maker and a home maker was a challenge. This creates a divided attention because she has to mange her work and her home. This challenge is evident in the literature review as one of the major challenges of women entrepreneurs. This is confirmed by Maysami *et. al.* (1999), that right after start-up women entrepreneurs face the tension caused by the dual responsibility of managing a business and maintaining a family. The CEO was able to cope with this challenge through support from family members especially a supportive husband who understands the kind of business she is in, her sister and sometimes her parents. The research by Maysami *et. al.* (1999) was based in the United States, but then it is known that in the United States, their family orientation is nuclear in nature, and so women who had multiple roles in such a society would face problems in terms of effective meeting the demands of each of the roles they play. In Ghana, the reverse is true. There is greater family integration, especially, at the extended family level, such that a woman who is hard-pressed with so many expectations would only have to ask a family member to assist in her domestic duties without having to acquire the services of a baby sitter or other caretaker.

When asked how she balances family life and work, she said:
"Initially I am sure you will struggle with balancing of the family life and the business, but then if you have a good and understanding partner and kids, it shouldn't be a problem. So from day one, you have to let them understand what your business entails …"

Lesson 4: *Through the extended family system, The CEO has been able to cope with both the demands of work and expectations as a mother and wife. Again support from her partner has been very instrumental in helping achieve her dreams.*

Out of all the challenges the CEO mentioned staffing as her major challenge. It's always been a very difficult task for her to get committed and competent staff to work with in her business. *"… and so my major problem now is staffing issue… you see, we just don't have the effort to work".*

She had to close down two additional training centers she set up in Accra due to incompetent and uncommitted staff. This caused her to lay off almost all permanent staff and now engage only temporarily staff on a need basis, thus with respect to the volume of work to be done. She added that because of the poor attitude to work, she could not afford to keep them permanently and be paying them every month when in actual fact they have not actually worked to merit their pay. This challenge is also preventing her from opening in other towns beyond Accra despite all the pressure she is receiving from interested non-governmental institutions.

She described the British teachers with whom she started the business with as *excellent "… but they had to leave at a point in time for England".* With reference to the Ghanaian workers, she had this to say:
"The really good ones want a lot of money which I cannot afford and so I end up going for the not-so-good ones with the hope that they would improve with time".

Lesson 5: *Although staffing has for some time now been her major problem, the CEO has not allowed this problem to overcome her, but has rather adopted the strategy of managing temporary staff.*

Studies on women entrepreneurship have identified that women have been looked down on and are not taking seriously as their male counterparts. This has been a challenge for women entrepreneurs in developing countries. To support this, a research by Ayadurai (2004) confirmed that elsewhere in the developing world, women entrepreneurs face challenges such as, competition from well-established male-dominated enterprises. This has rather been in the reverse in the case of Mrs. Asare since she has been able to gain more customers because of admiration as a woman who is in IT.
She comments that, *"Men tend to have an ego issue when being taught by their male counterpart, so they'll rather appreciate a woman to teach them"*. Another advantage of being a woman is her ability to arrange special times to train busy executives, but men will not easily squeeze time to arrange special class when busy unless there is a lot of money involved. Being a woman did not prevent the CEO from pursuing her dreams. In fact, she managed to overcome established challenges to her advantage.

The CEO initially had a challenge competing against well established IT training institutions in the country but with time she has been able to overcome this by running a special module of courses designed by the British Computing Society, attracting customers who are interested in the British system. She also teaches not only the theory but the software application as well this has given her a step ahead of her competitors since most people who take the theoretical aspects of course elsewhere end up coming to her place for the software application aspect. She explained that her gender as female gave her some competitive advantage over her male counterparts who were already in the industry:
"… actually because I am a woman I tend to get more business because people admire me in the sense that I am trying to make an impact in the area of IT and so they give me the chance only to realize that I am as good as the others – even better - … in fact some men would prefer to be taught by a woman than by a fellow male colleague … and again for the fact that I am offering something different – not the same thing as others have … something to entice them".

She added that she had no links (in terms of funding or other factors that would boost her start of business) when she came to Ghana after spending about thirteen years abroad, and so she had to start from the scratch. According to her she is now able to get to more people through advertisement in the print media.

Lesson 7: *The ability of the CEO to match existing competitors through innovation and the introduction of attractive packages, thus drawing more customers, should be a guide to entrepreneurs who are new entrants in the industry of IT. Through innovation, new female entrepreneurs, like Mrs. Asare, will be more confident without fear of being trodden down by existing strong competitors.*

5. CONCLUSION

This research has studied the motivation and challenges faced by women entrepreneurs in general, especially those in the field of ICT. The outcome has shown that even though IT is a male-dominated area, women have ventured into this area and have been successful. Venturing into a male-dominated area has made women more assertive and competes favorably with their male counterparts. The dual role has not affected the work of women entrepreneurs in Ghana contrary to the findings of Maysami *et al.* (1999). This is because of the family orientation of Ghanaians, that is, the focus on the extended family system. Because of this type of family orientation, women who tend to have a lot of workload tend to ask other member of the extended family to assist in domestic affairs. This research has confirmed the research conducted by Orhan and Scott (2001), who said that women venture into entrepreneurship for flexibility and independence. The interviewee in this research, Mrs. Asare, was clear on this when she said that she wanted to work at her own pace and space, and also have the chance to go on vacation with the family as and when she felt like doing so without any form of pressure from any superior. One interesting finding from this research was the factor of *passion* as a motivating factor to venture into entrepreneurship. Mrs. Asare, during the interview with her, mentioned that it was out of her passion to ensure that children were trained in IT that she established TechyKids in order to meet the future needs of the children 'today'. Some of the challenges identified in the research were, multiple role; thus combining both domestic affairs with that of the corporate world. Staffing was also a challenge, because it was difficult to recruit committed and competent people to work with. In developing countries inferiority complex was a challenge, but Mrs. Asare did not encounter such a challenge. Lastly through strategic approach Mrs. Asare overcame the challenges of existing competition in the ICT sector.

With respect to policy implications, it makes sense for governments to identify and direct the campaign for the strategic use of ICT more to less innovative, highly risk-averse, less persistent and less flexible women entrepreneurs, as they are slower in adopting such systems. This will go a long way to boost economic activity level since it has been established that women entrepreneurs contribute extensively to the economy of every country. Since women are not willing to shift from usage from traditionally feminine jobs, should formulate policies that will entice more women to venture into the various field of ICT sector. There should also be appropriate regulatory policies to cover healthy competition among both sexes in the ICT industry. It would be recommended that government empowers more agencies to assist women entrepreneurs in order for the country to benefit from their usefulness.

Concerning research implications, this paper adds up to works that have been carried out in the field of entrepreneurship, women and ICT in Ghana. There exist few of such studies that have been undertaken in the past that assess women entrepreneurs in ICT in this context. So the paper is original in context as well as in research terms. Findings from this research that confirmed motivational factors such as flexibility and sense for achievement, the pull and push factor on one hand and challenges such as multiple roles versus family orientation and staffing has supported previous research while giving insight into future directions. This paper has brought out awareness of female entrepreneurs in the field of ICT in Ghana and at the same time set the precedence for other works to be carried in the same area.

One potential limitation of this research is the sample size. There is no doubt that there are many more women entrepreneurs than the sampling frame list contains. Future research in this area should increase the sample size not only to women entrepreneurs in ICT but also women who are managing ICT firms. One future research interest might be to make a comparative analysis of women and male entrepreneurs in the area of ICT in order to assess their respective strengths and weaknesses so as to make informed and more objective analysis of the subject matter. The comparative analysis will also help to examine any gender-moderated effects and how it will impact the use of ICT in Ghana. Another future research should compare women entrepreneurs in ICT in Ghana and other developing countries. Such research will investigate is the common strengths and weaknesses of the entrepreneurs in ICT in order to bring about a more proactive strategy towards the promotion of women entrepreneurship in developing countries.

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TOWARD EFFECTIVELY UTILIZING GLOBAL ENGINEERING TEAMS IN NEW PRODUCT DEVELOPMENT

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ABSTRACT

The globalization of the new product development workforce is a growing trend as companies search to improve their effectiveness. This paper studied three potential barriers (education level, communication, and cultural differences) encountered by engineers in a multinational company. Participants of the interviews and survey were from both team members and mangers from U.S., China, and India. A comparison of base educational knowledge within the organization was found to be inconsequential. Inadequacies in product knowledge were expected and confirmed from employees based in India and China. Cultural differences among the design centers were categorized within an engineering context and explored to determine if a professional culture could transcend national cultures. To improve new product development, cultural training, flexible hours, increased test units, empowerment, and mentoring were discussed.

Keywords: *International Teams, New Product Development, Teambuilding, Global Teams, International Management*

1. INTRODUCTION

A continuing trend in business is to utilize global resources to reduce labor costs. While this has some cost benefit, it has created new problems and challenges for project management (Wiederhold, 2007). This project will explore the team dynamics of multi-national teams by defining specific barriers and limitations with possible improvements. Interviews and surveys of project managers, team leaders, team members, human resources department personnel, and other interested stakeholders were utilized.

New Product Development (NPD) teams from China, India, and the U.S. are examined and include data from each site. Initially, informal interviews were conducted to help define the scope of the project. Education, communication, and cultural issues were chosen as the primary topics as a result of preliminary interviews. The objective of this study was to define challenges international engineering teams encounter in the new product development process. This paper will focus on the operations and interactions among teams with members in China, India, and the U.S.

1.1 Global Design Centers

The concept of the software design center in India was to reduce cost and keep the internal intellectual property in tact. The facility has 56 software developers who are responsible for writing embedded code for selected products. The team is engaged in development of comfort control and air handler coding.

The China team led an effort to develop an electrical hardware and mechanical design center. The facility has 400 engineers, including 50-60 laboratory technicians and supports mechanical analysis and drafting, manufacture verification, advanced technology research, and electrical design. The residential site at the facility has 33 employees.

The U.S. location includes the manufacturing facility for all outdoor units (air conditioners and heat pumps) and has 143 employees. These employees are responsible for design and test validation of air handlers, furnaces, heat pumps, air conditioners, package units, comfort controls, boilers, air filters, and much more. The team is comprised of individuals with varying degrees of experience, age, and tenure within the company.

This paper concentrates on multinational/international/global dispersed teams that include in-sourced, off-shored employees working in the U.S., China, and India. Some NPD teams have utilized co-location, but the primary corporation and stakeholders are based in the U.S. The following will be examined:

Multinational/International/Global teams: A multinational team is a version of a dispersed team where the team is located in different countries. Some benefits may be realized from having the team work different hours if they may divide the project into components and clearly define the interfaces.

Education. The knowledge base of the team members throughout the three countries affected the core information and delivery. Understanding technological and educational levels of global team members is significant in NPD. An equally important part of the knowledge base refers to products being developed and the accessibility of the product, particularly in a country where that product is not currently marketed or commonly utilized.

Base Engineering Knowledge. New college graduates have different core competencies and engineering comprehension based upon the educational institution attended. While differences exist between national educational programs, an expected base knowledge exists. Studies have shown that there are major differences in this base knowledge among engineers graduating in the U.S., China, and India (Gereffi, et al., 2008) in that each country has different standards for type and length of education to qualify as an engineer. A recent study of engineering education in the U.S., China, and India (Gereffi, Wadhwa, Rissing, & Ong, 2009) provides the basis for the education sections.

2. LITERATURE REVIEW

2.1 Engineering Degrees in the U.S.

In order to compare degrees between various countries, the very definition of an engineer must be examined. An engineer should have a 4-year engineering degree from a college or university (Occupational Outlook Handbook, 2008-09). Within the U.S., differences between colleges and universities exits, but the basic engineering education is accepted by accrediting boards. Also, licensing boards for certifying an engineer as an Engineer in Training (after passing a standardized engineering test) are utilized. Numerous engineering societies, professional organizations, and certifications designed to support and provide specific knowledge to the working engineer and aid in job advancement exist (Gereffi, et al., 2008).

2.2 Engineering Degrees in China

China reports graduating more than 600,000 engineers each year. However, the term “engineer” is used to describe any technical field, including ship builders as well as those in scientific fields such as chemistry. Over half of the 600,000 Chinese engineering graduates receive an education equivalent to a two-year U.S. associates degree in a technical area (Wadhwa, Gereffi, & Rissing, 2009). Gereffi found that international and local technology companies felt comfortable hiring graduates from only 10-15 of these Chinese universities. The quality of education from the university impacts the hiring decisions and shows a vast difference in the type and quality of education among universities throughout the country. The majority of engineers hired from those countries did not have a 4-year degree (Wadhwa, Gereffi & Rissing, 2009). Chinese engineering graduates are currently facing unemployment upon graduation. Chan found that in 2006, nearly 60% of engineering graduates in China would not find employment (Gereffi, et al. 2008). The education level in China is different from those based in the U.S. and contributes to the decreased cost of employing internationally graduated engineers. If an engineer is not as well trained (i.e. obtains a lower level of education), then a lower cost of employment may be expected. However, this is not the primary reason for lower salaries abroad; lower salaries are more closely linked to the economy, unemployment, and the value of the monetary system.

Deficiencies in Chinese engineering education are being studied, and efforts are being made for improvement. The Chinese are on the path to their own accreditation standards. The National Expert Committee of Engineering Education Accreditation began in 2006 to develop the accreditation standards for multiple disciplines of engineering. With the support of the Chinese Ministry of Education and numerous professional societies, the committees are pursuing the importance of international standards over self-evaluation of the universities and schools. Further, methods of accreditation, such as professional examinations, are being considered. While the path for international engineering equality is distant, China seems to be on track (Jiaju 2009).

2.3 Engineering Degrees in India

India produces more than 350,000 engineering graduates each year. Like China's calculations for determining the number of engineering graduates, India's statistics are different as the overall number of graduates includes not just engineers (according to the U.S. definition of an engineer), but also computer and IT graduates. A high unemployment rate in relation to the large number of graduates exists, and almost three years of graduates are currently unemployed (Gereffi, et al. 2008).

This unemployment of both countries, combined with a steady influx of new graduates, is further exasperated by a McKinsey Global Institute study in which 83 companies were interviewed worldwide (Gereffi, Wadhwa, & Rissing). The study showed that almost 81% of U.S. engineers were employable, compared to only 10% of Chinese engineers and 25% of Indian engineers. Educational barriers were listed as a top reason for the disparity in global employability (Gereffi, et al., 2008). The inadequate education of students abroad has produced a plethora of engineers that are not globally competitive.

Unlike China, where education is government run, Indian education is becoming privatized. In 2005, nearly 75% of the universities and colleges offering engineering degrees were private. Within the public education realm, more than half of the available seats were based upon the caste system (Gereffi, et al. 2008). In the private sector, tuition is determined by how well the graduates are being hired; hence, good schools are able to charge more money in tuition. If a university graduates engineers who are unemployable, then they will have fewer applicants and ultimately, fewer students. To offset the educational gaps left by both private and public schools, the private sector has once again stepped in. Private companies are training engineers and making them more marketable. One of the largest of these companies runs over 700 such centers throughout India and teaches practical skill sets to graduates. Those who complete this additional training are more competitive. Because of these additional educational centers, India has a higher percentage of employable engineers than China (Wadhwa, Gereffi & Rissing, 2009).

2.4 Product Knowledge

During the new product development, the engineer is required to have specific knowledge beyond base technical knowledge. The members should have an understanding of the uses and benefits of the product developed. Without good product knowledge, innovation is hindered. Finally, the process must be understood with clear delineation of responsibility and acceptable flow of tasks.

Once members are well informed about process, product, and project knowledge, team members spend less time learning the process, and the project moves forward faster with more innovation. Engineers who understand these aspects may complete the required tasks without having to run down a checklist thus enabling them to spend more energy on product improvement.

2.5 Communication

A NPD team must communicate among themselves (as well as outwardly) to successfully complete a project. An obvious barrier to communication between global teams is the different native languages. The current trend in U.S. off-shoring is to use English as the common language, mainly because U.S. engineers seldom know another language. This inevitably places those dealing with U.S. companies at a disadvantage if English is not the primary language. Accents, dialect, and grammar all make it difficult for parties to understand one another. However, written communication may eliminate misunderstandings that arise from verbal mistakes.

Another barrier to global communication is time zone differences; i.e., what is a convenient time for one center is not convenient for another. Effective communication between sites in different time zones may be compromised due to the required extra effort of coordinating schedules. If all three design centers communicate at the same time, the most plausible time would be late in the evening for the U.S., while

China is entering midday, and India is just arriving at work. The U.S. and China design centers work an 8 a.m. to 5 p.m. schedule, while the India design center works a 10 a.m. to 8 p.m. schedule.

2.6 Methods of Communication

Since language and time are barriers, the method of communication must be selected carefully. Extra care needs to be taken to ensure the communication intent is clear. Types of passive communication are:

E-mail and Group Access Hubs/Network Drive: When sharing files the entire team needs to view, a network drive or web drive, such as Microsoft® SharePoint®, may be used. In a localized team format, a network drive may be sufficient to share information. When global teams are involved, a network drive is insufficient as slow data transfer speeds may be experienced. Web-hosted storage is more appropriate for multi-national teams (McShane & Von Glinow, 2008). If passive communication is used within a global team, questions, or verifications, may be delayed by 24 hours. The delay occurs when the team's regular working hours do not overlap with team members abroad. Group hubs and e-mail seem better suited for providing status updates. Such updates of accomplishment do not require immediate feedback.

Video Conference: Video conferencing enables meetings with a white board or prototypes may be viewed. Web cameras are a cost-effective method in allowing participants more insight into remote meetings. Recently, a development team installed a web camera facing a test fixture and a power strip that could be controlled through an internet connection. The setup enabled remote access to a test fixture both on site and from other design centers. One costly prototype could be power cycled, programmed, and viewed by several people at multiple locations.

Web Conference: Web conferencing through such programs as Microsoft® NetMeeting or Live Meeting allows several people to remotely view the presenter's computer screen. The presenter may also allow a remote user to control the computer. Combining web conferencing and teleconferencing creates a good medium for sharing information in dispersed teams. The method may eliminate misunderstandings which could occur during phone conversations or e-mail. These methods are utilized during internal design reviews when working with suppliers:

- Telephone
- Instant messaging
- Team communication
- Stand-up meetings
- Co-location

With a multinational team, cohesion may be generated by sharing personal information through e-mails. Bakir conducted research on how the personal side of a relationship affects a work project (Fink, et al., 2004). The subjects were not able to have face-to-face communication, but some of the groups were given a false persona of those working remotely. The groups that shared this personal information perceived they had a grasp of the person they were working with and experienced an improvement in their work (Fink, et al. 2004).

2.7 Culture

Culture presents an interesting barrier to the NPD process in a global setting. Workplace diversity has shown a potential to increase productivity within a company. Companies that successfully integrate heterogeneous teams corroborate these findings with superior financial success measures (Chubin, May, & Babco, 2005). Factors such as ethnicity, age, gender, and social background may round out a team, ensuring that different angles and perspectives are considered. However, diversity specifically within multinational teams may create rifts and barriers that limit productivity (Fink et al., 2004). Team cohesiveness may be affected when an unwillingness to appreciate the differences from other cultures is present. The successful melding of the team's diversity may provide a benefit, but if members are resistant to changes, the diversity may causes strife.

Language proficiency issues may not initially be thought of as a cultural barrier. Yet, studies indicate that fluent speakers may still struggle to communicate due to cultural differences. The research found that, assuming the language is unchanged, a level of understanding of about 75% exists when the cultural background was similar. Yet, when the cultural background was different, the understanding level dropped to 50%. In short, the communication loss doubled when culture differences were introduced (Li, 1999). The following are characteristics of differences between culture and compared to this study (Holstede, 1997)

<u>Individualism</u> is achieved when individuals are only concerned with themselves. The index number continues to decrease as the circle expands. The lowest score is achieved when the circle includes the country or even the world. All three countries have varying degrees of individualism. China has an extremely low score for individualism, while the U.S. has a high score, mainly in that the culture focuses on the individual. The individual is concerned with how things affect him/her personally, as well as those within their closest circle. China is the opposite of the U.S. in that the individual is not the focus but rather the company or country. India's score is somewhere between the two. Decision making could be affected depending on how the engineer views the benefits. A U.S. engineer might develop a solution and look for a reward or self-recognition from the company, whereas a Chinese engineer may take satisfaction in giving the company or home country recognition.

<u>Masculinity Index</u> of the three countries had little variance. Members must be assertive to help validate ideas during new product development and must often play the role of devil's advocate and challenge each viable option. The scores should prove beneficial in aiding this critical stage of the NPD process.

<u>Uncertainty Avoidance Index</u> revolves around how a culture handles insecurity and doubt. The higher the score, the more structure the culture has to remove irresolute situations. Laws, rules, guidelines, and regulations are methods to remove the unfamiliar. The higher scoring countries believe there is a right and wrong way. Countries with lower scores are more apt to embrace the attitude of "what will be, will be" and are also more open minded in their acceptance of new ideas (Hofstede, 1997). The U.S. tends to avoid the uncertain more than the other two countries. The accreditation and licensing of engineers is an example of why the U.S. has a high Uncertainty Avoidance Index. The uncertainty of a bridge or other product being suitable is removed because those designs must be approved by a licensed professional engineer. In NPD, the engineer is responsible to complete a thorough analysis of possible failures and effects. The design must be specified and tested to ensure the product will last when being used in normal methods and some abnormal ones.

<u>Long Term Orientation (LTO)</u> is focused on when benefits must be realized. A country with a low index score would be focused on immediate recognition and rewards for work and struggles. Countries with a high score would be more focused on the lasting effects of the decisions made. People may perceive how their work and effort will affect future generations (Hofstede, 1997). LTO values are often the inverse of the individualism index. The correlation would seem sensible, since the people with a low individual score are focused on the society and would be focused on the long term benefits. Those with a high individualism score focus on themselves and have less concern for future generations. The long-term orientation index provides insight into how people view the impact of decisions and is applicable to NPD in that decisions that are made concerning a product are often more concerned immediately. A large disparity exists among the countries with China reaching an index of over 100 and the U.S. scoring under 40.

2.8 The Engineering Culture

Pride is ingrained into each engineering student through various means, such as joining student branches of professional organizations, wearing shirts that reference jokes only an engineer would understand and thus fosters a university subculture. McIlwee and Robinson studied engineers as a society and a culture (Leonardi, 2001) and found the following three main components that existed in most engineering societies.

1. Technology is the center of the universe and engineers are the gatekeepers.
2. Empowering engineers with decision making authority is key to success.
3. Belief in engineers is key.

Despite the fact that all engineers are not identical in thought and deed, the stereotypical engineer is reinforced by the engineering culture. Working in teams may be difficult for an engineer who has been trained to be individualistic. An engineer may spend hours in isolation applying technology, even while being part of a team. Working late hours and bringing work home are often part of staying on top of the engineer knowledge base. Engineers are often selected for a project based upon technical knowledge and not just availability. The technical focus which engineers take encourages being part of the engineering community, rather than being part of a team. Even when an engineer moves into management or another non-engineering position, the engineering culture is still visibly embedded in the person's identity.

A pecking order exists in the engineering culture in that engineers assess and challenge each other's capabilities in the quest to achieve preferred status. Another measure of an engineer's success is based upon the success of the projects. The engineering culture also demands competency in both theoretical and practical knowledge.

2.9 Cultural Training

Cultural training not only improves communication but also helps those involved in the NPD process to understand global team members. Understanding others' cultures helps the new product development team look for innovative alternatives and products. The team should also spend time in the location of other team members to help understand their culture and to help eliminate potential communication barriers.

3. METHODS OF RESEARCH

Personal interviewing was the method of collecting data for several reasons. A questionnaire was designed to obtain the needed survey information. This included both closed and open-ended questions. Realizing that it was necessary to get a substantial amount of data in a reasonable amount of time, key managers and specific team members were interviewed to obtain the majority of the statistical data from a web-based survey. The survey was hosted on the Internet, and data was gathered from 90 respondents as shown in Table 1. The survey was intended to keep respondents anonymous, resulting in a greater willingness to take the survey, but an inability to ask follow-up questions. The online survey included open-ended questions to allow the respondent the opportunity to provide additional information. See Table 1.

Table 1. Locations and Positions of Respondents

Country	Positions		
	Member	Manager	Total
U.S.	20	18	38
India	22	7	29
China	15	8	23
Total	57	33	90

4. ANALYSIS OF FINDINGS

The survey results showed that the education of the global design centers was adequate which may possibly be attributed to hiring among the higher tiers of educated engineers overseas. A slight inconsistency exists among engineering managers and team members' perception on education levels. It is possible that U.S. managers have a higher opinion of the Chinese educational levels compared to the team members who are interacting with them. As might be expected, the Chinese perceived that they are highly educated. Management indicated that the Chinese are better educated than their U.S. counterparts as far as theoretical knowledge; however, U.S. engineers exhibited more practical knowledge (Thoren, 2009). Managers in India and China believed the Indians were adequately educated, while the U.S. managers viewed India as highly educated. Indian members viewed themselves as being highly educated, and U.S. members were almost split among the three divisions.

Overall, the U.S. was perceived as being highly educated, except for the Indian managers who rated each design center as 100% adequately educated. U.S. members had a high opinion of themselves, as did the other design center members. The U.S. managers were split between adequate and highly educated. The U.S. was viewed by all countries as being highly educated. Credence is given to this assessment, since both India and China gave the U.S. higher scores than they did themselves.

4.1 Product Knowledge

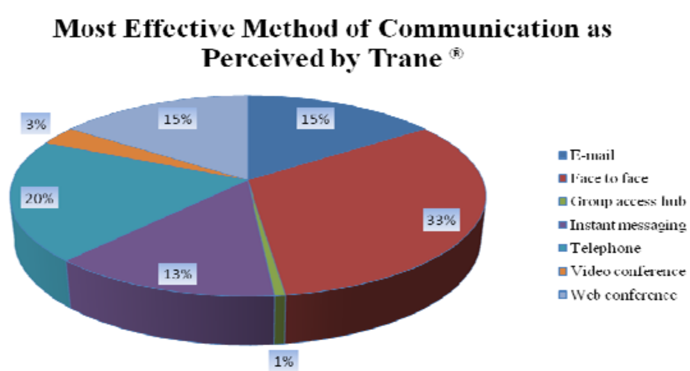
All global design centers viewed their product knowledge and that of the other centers similarly. The Chinese global design center was perceived by all respondents as having the least product knowledge. All three centers were more evenly divided on India's product knowledge. This result was somewhat surprising because India is a newer design center. The high rating may be the result of extensive travel to the U.S. by members at the India design center. The members of the China design center have made trips to the U.S. but on a much smaller scale. The U.S. was rated as having high product knowledge by all centers. The result was expected, since the U.S. was the origin and destination of the products.

Several U.S. designers tested the products in the "real world" via test units in their homes. The U.S. design centers also had improved product knowledge by holding training classes weekly to teach new and veteran engineering employees about the how and why of designs. Perhaps this test should be implemented in members' homes in China and India well. Until a good understanding of the product is reached, mentoring may be an effective way to ensure transfer of information.

4.2 Communication Patterns and Habits

The survey asked which methods of communication were most commonly used when dealing with other design centers and their effectiveness as shown in Figure 1.

Figure 1



The most commonly used method of communication was e-mail (35%), followed by telephone (20%). A small percentage had used face-to-face, probably in the context of traveling to different design centers, but the majority had no face-to-face communication. Even though face-to-face communication was mentioned by 33% to be the most effective form of communication, it was replaced by E-mail which is easy to communicate without time zone constraints but may not be as effective. Perhaps design engineers could use pictures to describe needed work, since a single picture could replace much of the text or an otherwise lengthy e-mail. Three areas for improvement on team communication were (1) stand-up meetings, (2) co-location, and (3) communication guidelines.

Stand-up meetings of various types were implemented. During a training session, a team determined the method was necessary to help everyone know the status of the project. A stand-up meeting was implemented at the beginning of each meeting. During the past year of utilizing a stand-up meeting, the team has been able to resolve issues faster, and other members became more aware of how their teammates were progressing. This method worked well for this team, since the main members were all at one site. Other teams have set up multi-national stand-up meetings. A team from India and the U.S., during a critical stage of the product, communicated every morning and night for 15 minutes to discuss findings and goals. The team was "handing off" the work in order that one team could rest while the other worked. This was very effective for the three weeks, and the meetings stopped after the critical stage was completed. However, if maintained for extended amounts of time, this method could be ineffective to teamwork (Black, 2009).

Another team had nightly 15-minute calls, Monday through Thursday, to discuss progress, as well as current and upcoming tasks. The calls involved China, U.S., and India, and provided direction to help the project move faster. The calls consisted of each member being responsible and brought to light when a person has been waiting on another member. The major downside of these calls was the extra time requirement for the U.S. teams. Calls occurred during China's and India's normal working hours, while the U.S. members must interrupt their personal lives for the call. The 15-minute call often takes 30 minutes, including logging in and following up on concerns.

4.3 Communication Guidelines

Management encouraged everyone to abide by communication guidelines with the focus on getting people "out from behind their desks." The separation of team members works as a barrier to verbal communication. U.S. management promotes face-to-face interaction whenever possible. Phone calls were the next acceptable method with a combination of web conferencing. The overall feeling from members was that too much communication was occurring through emails and causing delays and e-mail overload. When management's guidelines were followed, the use of email was minimized, and members implemented more face-to-face interaction. On a global scale, quick meetings were scheduled to resolve issues and was preferred, since e-mail may cause days of delay. When management's guidelines were not followed, delays become inevitable, and frustrations from misunderstandings increased.

Recently, two projects had used co-location with mixed results based upon time spent in co-location. One team benefited by spending the majority of the day in a room debating ideas and working out details. The other team had moments of great progress when everyone stayed in the room but suffered because the team members were tasked with other projects that would require them to leave from time to time. On the global side, the company had not tried site co-location or a time-based co-location. Global team members have traveled to other global design centers for the purpose of gaining experience and obtaining product knowledge transfer and cultural understanding but did not necessarily take place during critical project phases. The effort to utilize global teams in NPD is in the early stages, but the effort of those with monthly interaction was surprisingly high.

4.3 Culture Survey Findings

In engineering NPD, ownership of a project is key in that the engineer adds his/her signature to designs (Thoren, 2009). An engineer adds the signature by adding personal touches that distinguishes the design from every other design. If the engineer does not feel ownership, the project may be slowed, causing unnecessary delays. An engineer without a sense of ownership may feel no need to rush or work extra hours to complete a project on time and may lack attachment to project success. There is a resounding feeling from U.S. based counterparts that the sites in China and India do not take ownership. When a problem occurred, the member said he would inform his superior about the delay and its impact in scheduling and cost; however, no thought of working late or possible solutions to meet the schedule were mentioned (Stinson, 2009). In the U.S., if a project is falling behind or has a critical date, engineers are expected to do everything possible to stay on schedule with extra effort and perhaps unpaid overtime. However, when work returns to normal, some flexibility in scheduling when personal issues arise.

All global design centers had the same opinions of the decision-making abilities of each design center which indicates that China may be indecisive, India being split, and the U.S. being very decisive. The

Power Distance Index may partially explain this, since the U.S. is viewed as the authority and primary design unit by all three centers. Because of belief in class distinctions, members of the Indian and Chinese design centers may be hesitant to make decisions without U.S. approval. This belief has created conflicts, as projects are delayed due to simple decisions awaiting approval to simple answers. U.S. management emphasized that the design centers should be empowered to make these decisions without waiting for U.S. approval. Such empowerment would require change in core beliefs of both India and China with respect to perceptions of viewing the U.S. design centers in that India and China should view themselves as equals in order to gain the full potential of a global design team.

The survey asked if employees had had cultural training. A majority, 84%, indicated they had no cultural training. China had the most training, as perceived by 26% of the respondents. The U.S. had the least amount of cultural training. However, it is possible that some culture training was received at previous jobs or obtained through self study.

Cultural training is important in that it shapes a person's work ethic and mentality. Further, it sets the acceptable values which include work ethic, nature of holidays, acceptable clothing, and gestures. For instance, holidays and time off for India and China are very misunderstood by the U.S. China has two major holidays which last for about a week, where the U.S. has ten holidays throughout the year. A misunderstanding of holidays may lead to discontentment; for example, some U.S. workers expressed frustration that China will be gone for a week. However, the frustration is unfounded, as the amount of company holidays is equal for all sites. Work ethic is another area for possible misunderstanding. U.S. and China businesses may maintain an 8 a.m.–5 p.m. work schedule with slight variations. Work schedules in India may be quite different in that it is not uncommon for workers to begin work at a wide range of hours. Members throughout all locations were found to work at least 40 hours, but start and stop times varied. Needless to say, if a member's work schedule was not understood, misinterpretations of work ethic may exist.

5. SUMMARY AND CONCLUSIONS

China and India workers perceived a significant growth in their own design centers and a light growth in the U.S. U.S. workers perceived India and China to have a high probability of growth and a significant belief that the U.S. design centers size will be reduced. It is possible that management has not shared its view of the outlook for the design centers across the company. Further, U.S. team members may be reluctant to help the other design centers due to the outlook that their design center may lose jobs while India and China grow.

Educational differences, communication barriers, and culture differences were found to present the greatest challenges for team effectiveness. No differences existed in educational knowledge within the organization which could be attributed to careful screening and testing of perspective employees during the selection process. U.S. managers and members perceived India and China to be very educated but perceived a deficiency in practical knowledge. Subsequently, inadequacies were expected and confirmed in product knowledge. However, as product knowledge is gained and teams work together, practical knowledge may be acquired.

In order to increase knowledge transfer regarding the split system air conditioning, the following were offered: (1) Have a location at the China and India design centers that is controlled and ducted similar to a U.S. house and used by employees to experience the system first hand and (2) Record a video course that explains the components, installation, system, and algorithms.

A NPD team must communicate effectively in order to successfully complete a project. Different forms of communication were explored, and methods of successful communicative meetings were studied and then applied to corporate practices. One issue with global team communication is that work days do not overlap. Active communication provides timely feedback because both parties interact in real time. The survey results showed the effort level required to communicate with global teams and methods most commonly used by the three design centers. Extra hours resulted in employee discontent at each center as evidenced by the survey. Due to the importance of these active global communications, it is not recommended that this practice be lessened. A solution to resolve the discontent would be to provide more flexible working schedules. U.S. and China workers could come in an hour early for work and provide overlap respectively with India and the U.S. India workers could stay an hour later and perhaps provide an overlap with others. Shifting work hours one direction for all days could also provide more active communication during important stages.

Finally, cultural differences between the design centers were categorized within an engineering context. The cultural differences were defined and related to a widely used quantifiable index created by Hofstede. Further, the engineering culture was explored to determine if the professional culture could transcend national cultures with the result being a need for cultural understanding. Despite understanding of cultural differences in fostering good relations, over 84% of employees had no cultural training. Cultural training could help alleviate misunderstandings and help teams become more cohesive and facilitate a clearer understanding of the different backgrounds of employees at each design center. A short introduction to each culture might encourage questions revolving around cultural backgrounds and explore the personal aspect that aids in team productivity.

6. LIMITATIONS AND AREAS FOR FUTURE RESEARCH

The method of gathering information was limited by money and time. Face-to-face interviews were only possible with a select few. The survey questions may have been misinterpreted due to the wording or cultural fear of not fully understanding how the results would be used. The questions were designed to be broad and impersonal. Also, research showed that engineers reached their peak efficiency when working on two projects (Smith, 2007). Survey data was gathered to test this research but did not provide a clear statistical distinction.

A further breakdown of the questions could help decipher the nature of global NPD effectiveness. Another area of interest is whether global members have equal workloads. The survey showed that U.S. engineers had an average of 2.17 major projects and 2.65 minor projects with half of the engineers feeling overloaded. India and China engineers had 1.7 major projects and 2 minor projects with fewer than 30% feeling overloaded. While culture differences were discussed, no research into generational cultures was examined. Generational differences may exist, and perhaps a study of Hofstede dimensions with relation to these differences might provide some insight.

Further, the project was focused solely on one multinational corporation and its experiences with global teams during a few new product development projects. Regardless, the barriers encountered did align with the literature review. The operation of global teams was limited currently to India and China. The barriers could change depending on the countries involved in a global team. The knowledge barrier could change based on the use of the product in a given country, while the communication barrier could vary as time differences were minimized.

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LEADERSHIP:
A NEW PERSPECTIVE FOR TEACHER LEADERS IN PAKISTAN'S EDUCATION SECTOR

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ABSTRACT

Teacher quality is the subject of attention in this era than ever before. Teacher is a person who strengthens the personality of a student. The achievement of student is related to the teacher quality. Teacher is considered as a person who has most highly leadership skills. The idea and practice of teacher leadership is the core area of research from past two decades. The aim of this paper is to highlight the picture of a truly effective and efficient future oriented teacher as a leader to his/her student in the teaching environment using a practical approach to his/her field. The future teacher leader in teaching environment is challenged in Pakistan's education environment. This article focuses on the education leader taking the main role in challenges faced by him/her in current education environment. The teacher leader must have some essentials which lead the students to achieve their objectives and these roles have considerable changes during past, present and in the future teaching environment .The teacher must have authority, power, commitment and influence to lead his/her learner. The teachers are facing dynamic challenges everyday and the changes and challenges to teacher leadership must be implemented, a newly effective style of leader in education sector. The new century demands different leadership approaches by teacher in different times. The papers conclude by defining different dimensions of effective teacher leadership that can bring the educational changes in education sector of Pakistan.

Keywords: *Teacher, Leadership, Students, Authority, Power, Influence*

1. INTRODUCTION

In the past twenty to thirty years organizations has been subjected to massive changes due to effective leadership. Education sector is also mess up with such changes. In education sector these changes concerned with the educational achievement of the students (Conolly, James, 2000). The role of teacher leadership is the backbone for educational achievements of students. A teacher is a person who strengthens the learning abilities of his/her student and a leader is a person who promotes the learning empowers his/her followers. The most important question to be asked by researcher of educational practices is "is every teacher a leader?" or "is every leader a teacher". The question is still not answered. Researchers are agreeing at the point that there are some traits of a teacher who makes him/her a leader. The teacher leadership is the course of action by which teacher influence his/her students, colleagues and other staff members of his domain to improve the teaching and learning practices (Barr, Duke, 2004) The focus of the article is to highlight the key teacher leadership elements in the setting of past and present leadership approaches. The paper discusses the past role of teacher leadership as authority and power and present role as cooperation and influence. The aspects of leadership which motivate the students by their teachers are discussed. Every teacher differs in characteristics of leadership and different type of teacher leads his/her students in different way. In the past the teacher follows the different approaches whereas in present new approaches are emerge by the teacher leader in new ways. The new solutions and the new actions are presented in the paper for the new role of education leaders. In the late 19th century the concept of leadership first time appeared in English language (Davis & Cushing 1999, p.12).The result of effective leadership is to make people prepare to deliver maximum output that faces the new changes and challenges

and enable followers to increase their performance. The effective leadership results in the increase productivity and long term benefit of all type of concern (Charlton 2000, p. 30) . The role of teacher leaders in Pakistan and international education environment is continuously shifting and moving towards new dimensions. These new dimensions differs the management from leadership, control from authority or power and change from empowerment. Now the leader is not considered as the person who controls his/her followers rather s/he is responsible to define vision to his/her followers so assist them in planning, organizing, leading and controlling the activities. These exercises make the followers enable to their development and to create a learning environment. To make his/her students able for self management and to develop positive behavior is the essential task for today's teacher leader. Apps (1994) said that different times and different conditions demand different approaches therefore different leaders lead in different ways from those leaders whom we knew in the past.

2. CONCEPTUAL FRAMEWORK FOR TEACHER LEADERSHIP

The teacher leadership of the present is facing new changes and new challenges in education sector of Pakistan. Teachers are working at different functional, middle and top management levels in different education settings like schools, colleges and universities. In these different settings teacher leadership is challenged or affected by many political, cultural, and economical, professional and other factors. The role of authority and power of teacher leadership has now been shifted to the influence of the teacher on his/her student. The new dimensions of leadership define the guideline for teacher leadership in the education sector of Pakistan to create a new paradigm for effective leader. Leadership remains the challenging area of research in the history.

Leadership is more important in today's world and its need is urgent in every society and institution. In Pakistan the need of leadership is vital for the development and betterment. The challenges are very crucial in education sector because things are changing very rapidly. The responsibility of teacher leader is increasing day by day because they have to develop the nation by enhancing the role of their students. The teacher leader must know how to influence his/her student and where to use the power and authority and how to influence the students to meet the educational challenges. Teacher leader also must have the sense of responsibility in his/her to set criteria for effective leadership. The teacher leader should often ask him/her self some questions to avoid uncertainties.

1. How can I use the authority to lead my students to achieve their goals?
2. How can I be powerful to my students without being overpowering?
3. How can I use influence to increase the performance of my students?
4. How can I communicate effectively with my students and colleagues in institution?
5. How long I should work as a good teacher?

A teacher leader should promote learning that build educational and learning process. In order to become effective leader the teacher should answer the following main questions.

1. What are the fundamentals for the role of an effective teacher?
2. What is the role of leader in present and future education delivery system?

This paper aims to highlight the image of an effective future orientated teacher leader. By addressing this effective image of the teacher leader the article focus on:

- past and present leadership in education setting;
- role of authority, power and influence in leadership ;
- new dimensions of education leadership;
- new effective solutions to effective leadership in education sector

In order to achieve these objectives and fundamentals of leadership there must be a clear understanding in the mind of teacher about good leadership. The teacher should know where they were in the past, where they are at present and where they need to go in future. This approach will lead them to move in right direction.

3. TEACHER LEADERSHIP IN PAST–PRESENT–FUTURE SCENARIO

In past the teachers were not effective leadership qualities as in the present. The past characteristics of teachers were authority, power and control. There was less competition among the teachers in the institution with respect to development of the students. The teachers were of the belief that the change was not for them. In present with the change in institutional focus to improve the skills and to increase the knowledge of students the role of teacher leadership is shifted to influence. The new hierarchy has been developed for teacher leadership in which his/her responsibilities and role is dynamic and vaster. In the past leadership the leader was responsible to address the future strategies. The teacher leadership is now changing its role from

being teaching to the supportive mentor to his/her students. The leaders are going to become institutional leaders instead of only work as a resource allocator (Chapman 2001, p. 56). The teacher influences the students by learning the past and tries to identify the future trends in the social development of the education sector. The teacher leader tries to use the influence rather than authority and power to set the future trends for his/her student in technology, their social and cultural development and prepare them to meet the economical, political and educational challenges. With the new increase in technology there would be expected a institutional revolution. In future we suggest that the teachers would be more cooperative to the institutional revolution Figure 1.depicts the model of teacher leadership in present, past and future scenario.

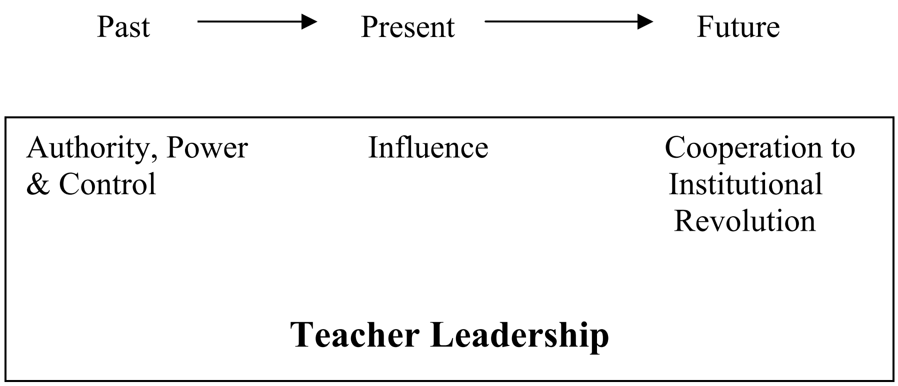

Fig 1. Teacher Leadership, Past, Present and

4. FACTORS IN PAKISTAN’S EDUCATION SECTOR THAT EFFECTS TEACHER LEADERSHIP

Being a developing country Pakistan is facing a lot of challenges in its education sector. The most important of these challenges are political changes, economical changes, increase population growth, poverty, health, inflation. The technology is even though even growing more rapidly but inflation and poverty are the main reasons which become the hurdles for the people to get better education. About 30 t0 40% people in the country are passing their life below the

poverty line. The education sector is suffering a lot from current political situations. There are several reasons for the lack of motivation among teachers The most challenging factor is inadequate salary. The primary school teacher in Pakistan almost earn about $32 to $65 per month. The second most challenging factor is that teaching is not granted as a respectful profession in Pakistan as compare to accounts, engineering and medicines. The terrible working conditions also lack the motivation where teachers are not get facilitated with resources and equipment needed for teaching. There is also a little opportunity for career advancement in the teaching profession in Pakistan, especially for primary school teachers. The only one solution available to most teachers is to move into secondary school teaching. Moving to colleges and universities has different criteria and education standards which set by higher education commission. This less career development approach has negative effects on the primary school system, since it is often the most motivated teachers who leave teaching primary school for secondary school. Another important but not last issue is that there is virtually no system of

accountability for teachers. Teachers are often accountable to Pakistan's education department which is far from their teaching location. This means they can get away with absenteeism. There is no local authority to ensure that teachers attend classes and teach their students. Head teachers have little authority to censure teachers who do not turn up for work. Even parents have no way to endure proper teaching.

These are the critical factors which resist the teachers to become good leaders and discourage suitable candidates from becoming good teachers and affect their leadership abilities. Due to the lack of teacher leadership abilities student of all level (school, college, university) especially children in primary schools of rural areas are continuing suffer from education and literacy which is leading to the little hope for their future or overall for Pakistan as a nation.

5. THE BASIC ESSENTIALS FOR TEACHER LEADERSHIP

The essentials for teacher leadership in the scenario of past, present and future are authority, power, influence, commitment and cooperation to organized revolution. Taylor (1991) studied the jobs and tasks and gave training to the worker to increase productivity. He never welcomed the ideas and suggestions of the workers which exploited and de - motivated the workers. In the past the positions in organizations were organized in hierarchy of authority. Each position in the hierarchy was in the authority of higher authority (Jooste, 2004, p.3). The concept of these approaches is that leader was more towards the authority, control and power rather than the concept of cooperation and influence. After a period of about fifty year the concepts changed from authority and power towards the influence. The leader in the organization strived for

influence over other people and wanting power being ignored the full authority and power. The need to understand the attitude and behavior of people at a work place was generated. The more humanistic approach was developed.

Teacher leadership has passed from the same phases in same manners. In past the teachers also used the power and authority control to their students. The traditional approach was to teach by use of control rather than influence. Teacher in the education sector of Pakistan are now moving from the focus of authority, power and control to the influence on his/her students. In present education set up influence is used to ensure that work and behavior of students must remain positive. With the new trends in technology teachers try to motivate their students to persuade, negotiate and understand the new drift to explore the ways. The dimensions of influence are cooperation and commitment. In future which would be the period of technology era teacher leader must organize the revolution process by being remain cooperative to his/her student. These dimensions of influence are critical for ensuring a mutual activity to enhance productivity (Chapman 2001, p. 57). The new exercises which can lead the students must be promoted. These practices can be to become the mentor by giving instructions model to his/her student by example, to build the cooperative environment among teacher and students (Lambert & Nugert 1999, p. 174) and to encourage them on their productive work and positive behavior.

6. THE NEW DIMENSIONS FOR TEACHER LEADERSHIP

The new leadership dimensions are viewed in teacher leader perspective to enhance the leadership abilities of teachers. The leadership can be viewed in all dimensions to generate the characteristics of an efficient and effective leader to solve the problems in education sector. The teacher leader has vital role to play to influence his/her students. Any inadequacy in the characteristics of the teacher can create problem for his/her students. The teacher leader must always keep in view the problems which might be faced by his/her student in the working environment. The teacher must always ask his/herself some questions to identify the reasons of the problematic situations among students in their work environment.

1. Understanding: do students have complete understanding of their task?
2. Clarity: are students clarifying for the task assigned to them?
3. Commitment: what students expect or need from their teacher?
4. Cooperation: do their teacher is cooperative in helping them out?
5. Confidence: do students know their abilities?
6. Benefits: What would be the benefit of working hard?
7. Behavior: does teacher leadership style generate positive behavior among the students?

The teacher must have an enormous role to play in guiding students to the right direction. Shortcomings in the characteristics of the teacher could lead to problems among students at their work place.

6.1 Clarity

Clarity is the critical dimension for effective teacher leadership. A teacher leader must conceptualize his/her student about their future tasks and clarity must be the beginning of each task. Teacher should transmit the students what is right and what is wrong. The teacher leader should also focus on that what will be his/her role in the future to direct his/her students. The teacher should converse the future task to his/her students by:

- defining the goals and objectives of the task assigned.

- setting a specific time to each goal and objective of their tasks;

- being positive, and cooperative towards his/her students;
- focusing on group based activities
- promoting knowledge sharing among the students
- promoting the vision that they would serve their country
- listen to his/her students and response them properly.

The teacher leader is responsible for clarity of communication among his/her student and should involve his/her students in sharing the knowledge and bringing the ideas. The more the students are involved the more the things get cleared. Less involvement of students leads to getting things less clear.

6.2 Commitment

Commitment is another attribute for teacher leader. Students will be committed to their task when their teacher takes action and initiate the task assigned to them and involve with his/her student to bring these tasks into the very end. An efficient teacher devotes his/her time to tell his/her students what to do and how to do? The question here is what a leader needs to be committed? The answer is the sense of responsibility, the dedication to his/her profession, the intrinsic motivation, the knowledge and experience, the suitable atmosphere, the skills of teacher, his/her norms and values (Jooste, 2004). A teacher has his/her own characteristics that always drive his/her self to more commitment.

6.3 Cooperation

Teacher student’s relationship is most likely resembles to the psychological contracts. The true leadership style in teacher leader is his/her cooperation with his/her students. The students always thinks of that their teacher would be cooperative to help them out in the tasks assigned to them. They assume that whenever any difficulties find their teacher must be there for their guidance in solving the problem. This belief generates the sense of responsibility among the students and they feel comfortable to their assignment.

6.4 Confidence
This concept is the building block of new dimensions of teacher leadership. The commitment and cooperation of teacher to his/her student generates the sense of confidence among the students. This sense of confidence tells the teacher that how much effective his/her leadership

style is? Inner leadership qualities of teacher help to bring out the hidden qualities of his/her student. The teacher leaders increase the self awareness among his/her students that they are capable enough to do the task. This belief tends the students to be confident enough and to aware of his/her own abilities to accomplish the task. The teacher leader must transform the vision to his/ her students and make them enable to understand their personality. In individual some things about his/her own personality are known by the others and his/her self but some things are hidden to others but only knows by him/her. The teacher leader must be capable enough to explore the part of such hidden qualities of his/her students.

6.5 Benefits
Another important aspect for teacher leaders are to tell his/her student about the benefits they will receive for their hard work. The teacher leader must generate the high morale that his/her students will get benefited on their best performance. Students satisfaction towards the task and trust towards their teacher has a positive effect on their performance.

6.6 Behavior
Teacher is the leader who accelerates the performance of his/her students and inspires his/her students by defining a vision. The teacher has personally created dreams which show the student

what the things would be like in future. This exercise generates the positive behavior among the students. When students see that their teacher is proactive they strive to achieve the future aims. Teacher do the skill management of his/her student so they can survive in the long run and

develop a goal achievement perspective in short term , always have strategic planning, and manage negative emotions of his/her students. These actions generate the trust and change the attitude of student. Teacher also recognizes the achievements of his/her students and celebrates accomplishment and make students enable to share their celebrations among them.

New Dimensions for Teacher Leadership

Clarity Commitment Cooperation Confidence Benefits Behavior

Fig 2. New Dimensions for Teacher Leadership in Pakistan

7. LIMITATIONS AND FUTURE RESEARCH

We only present the new dimension of teacher leadership which will be beneficial for the future teachers. The paper only focuses on the effective teacher leadership in Pakistan's education sector. This study might be applicable in the education sector of other countries as well where teacher leadership is facing problems. The study is just a theoretical approach towards the teacher leadership. It should be tested empirically in education sector. More theoretical and

empirical support is needed for future research. The other key attributes of teacher leadership are vision, thinking ability, change management skill, knowledge management skills, negotiating

skills, confidence and strength must be discussed in detail. The time has now come for the teacher leaders in education sector to shape teaching practices in education sector. Teacher must be proactive to learn from the past, see the present and shape his/her students for future. Every teacher leader should consider his/her leadership traits as a gift to him/her and always must have aim to change and do the things according to his/her leadership abilities. Although the paper is focused on the leadership attributes in educational sector, the dimensions also can implement in other institutional settings.

8. CONCLUSION

The practices of leadership in last twenty to thirty years are affected by the change in leadership attributes. Teachers nowadays are considered as the most important leader because teacher is a person who can develop the skills in his/her students. Teacher has a most influential role to build up the nations. The paper focuses on the leadership attributes of teacher in Pakistan's education sector where there is a gap between a teacher and students. Teachers are facing enormous challenges in their profession. The pragmatic approach to leadership dimensions to teacher can help out the education sector to solve the problems. Hard work is a core value for teacher to become good leader. Good and effective leadership enable students for foster learning and when students take charge of their own work they improve their performance and quality of institution also improves. An effective teacher leader needs credibility by his/her students which makes him the true leader. The new dimensions of the teacher leadership will make the students able to cope with the changes and the future challenges. The effective leadership in education sector is a need of time for Pakistan's education environment. The new dimensions and the effective leadership is a big hope to meet up the challenges of Pakistan as a nation.

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Proceedings of the IABE-2010, Las Vegas, Nevada, USA
Volume 8, Number 1, 2010

International Academy of Business and Economics®
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ISSN: 1932-7498
7 719327 490045
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