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LETTER FROM THE EDITOR

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Articles

PRE-TRAINING MOTIVATION AND THE EFFECTIVENESS OF TRANSFORMATIONAL LEADERSHIP TRAINING: AN EXPERIMENT

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ABSTRACT

Effectiveness of transformational leadership training has often been researched descriptively. This study, using a true experimental design, empirically evaluates the effectiveness of transformational leadership training. Role of training motivation in explaining the training effectiveness is discussed. Consistent with the hypothesis, the results of the study reveal a significant and positive effect of transformational leadership training on employees' satisfaction with the trained supervisors. Furthermore, trainees' (supervisors) motivation towards a transformational leadership training program significantly and positively affects the attitudinal outcomes.

INTRODUCTION

Emotional and symbolic aspects of leadership have remained an avenue of great interest for management researchers since 1980s. The theory of transformational leadership influenced by the work of James MacGregor Burns (1978) and more empirically researched Bass (1985 & 1996), describes this important aspect of leadership. Transformational leadership instigates the moral values of followers while unshackling mental processes to instill a concern for ethical issues and to mobilize energy and resources to reform organizations. Current research on transformational leadership, in contrast to Burns, focuses more on pragmatic task objectives than the moral uplift of followers (Yukl, 2008, p. 267). Transformational Leadership has a positive effect on subordinate's attitude and firm's performance. However effectiveness of Transformational leadership training is a less researched avenue. (Barling, Weber and Kelloway, 1996). This study evaluates the effect of transformational leadership training on subordinate's satisfaction with the supervisors.

On the other hand, training motivation plays a vital role in determining the effectiveness of a training program (Colquitt et al. 1999). This study extends our understanding about the role of training motivation in transformational leadership training context.

This study substantiates the existing literature by using conceptualizations of transformational leadership to study the effect of such trainings on subordinates' satisfaction. Furthermore, to our knowledge, this study is unique in evaluating the role of training motivation and its impact on transformational leadership training effectiveness.

LITERATURE REVIEW

Transformational leadership Training

The effectiveness of transformational leadership training intervention have been studied from three different performance oriented perspectives *i.e.* effect of training on attitudinal outcomes of trainees (Howell & Frost, 1989), task performance of subordinates (Kirkpatrick & Locke, 1996) and the impact of training intervention on financial performance (Barling et al, 1996). The dimensions of transformational leadership have been related to the task performance of subordinates. It has been identified that individuals working under a leader exhibiting individualized consideration are lower at task performance than individuals working under charismatic leadership (Howell & Frost, 1989). The effectiveness of transformational leadership training has been evaluated through three different criterions, namely, reaction (Popper, Landau, and Gluskinos, 1992) behavior and performance (Barling et al, 1996). For instance Barling (1996) used a true experimental design to evaluate the effect of transformational leadership training intervention and related it with organizational performance. It has been emphasized that the effect of transformational leadership training should be studied on other individual attitudes like subordinates' satisfaction with their supervisors (Barling et al, 1996).

Training Motivation:

In a training context, motivation is a goal directed inspiration derived from trainees' personal needs and the decision processes they use to satisfy those needs (Blanchard & Thacker, 2004). A number of external and individual variables have been identified that affect the motivation towards a training program.

Individuals with an ability to learn but low in training motivation cannot reap full benefits from a training program. (Noe & Wilk, 1993)

METHOD

This study uses a true experimental design. A pretest-posttest with control group design was adopted for the study. The procedure for selection of participants and the instruments is as follows.

Area managers of a large scale private healthcare company were selected for studying the effect of transformational leadership training on attitudinal outcomes. The selection of a single company helped control the cultural variations, whereas, the selection of Area Managers, only, helped maintain uniformity of the staffing function as well as the SKA. Other factors that could have distorted the results were controlled using a control group. The authors, under a contract, had to provide transformational leadership training at, geographically dispersed, regional offices of the said company. The trainings were scheduled to be conducted at these offices over a period of one year. In view of the time lag between the occurrences of the training program at various regional offices, the subjects that were to be trained first were considered as an experimental group, and the ones to be trained last, were considered as the control group. Experimental group consisted of twelve managers, out of which, eleven were male whereas, the twelve managers of control group included ten male members. For each subject in the two groups, three members(subordinates), who directly reported to a subject, were selected for the study. Information was collected from them on two parameters

I-e the subordinates' perception of transformational leadership behavior of his/her manager and satisfaction with him/her as a supervisor. This information was collected using pretest-posttest design. Moreover, training motivation of the subjects was also measured prior to the experiment.

Questionnaires

Multifactor Leadership Questionnaire (MLQ) was used to study the transformational leadership behavior using subordinate's report. MLQ measures four aspects of transformational leadership: (a) individualized consideration (IC) (b) intellectual stimulation (IS); (c) inspirational motivation (IM); and (d) idealized influence (II) The reliability of these subscales in the current study, as measured by subordinates' perception, was as follows: Individualized consideration, intellectual stimulation, inspirational motivation and idealized influence were 0.87, 0.92, 0.94 and 0.89 respectively at pretest and 0.92, 0.91, 0.95 and 0.90 at posttest stage. This explains that the scales were internally consistent at both the stages. Transformational leadership behavior was measured, through MLQ, at both pretest and posttest stages. The pretest and posttest ratings were collected 10 days prior and 90 days after the training intervention respectively.

A six item five point reduced form of sixteen items measure developed by Noe and Wilk (1993) was used to measure (trainee) managers' leadership training motivation. The internal consistency reliability of this measure in the present sample was $\alpha = 0.95$.

Satisfaction with manager was measured through a 6 item reduced form of 18 item 5 point scale developed by Scarpello & Vandenberg (1987). This questionnaire describes the subordinate's satisfaction with his/her manager. Sample items include "The way my supervisor helps me to get the job done". "The way my supervisor gives me clear instructions" and "The way my supervisor listens when I have something important to say". The internal consistency reliability of this measure in the present sample was $\alpha=0.95$.

Training Intervention

Training intervention was organized by an expert training consultancy that adopted the following training design to impart the transformation leadership training. Training was divided into four modules that were offered with a lag of 7 days in the following sequence.

Session 1:

Prior to the first session, all participants evaluated themselves on transformational leadership characteristics. The session that lasted for three days, started with an assessment of the participants' prior understanding of the four dimensions of transformational leadership i.e. idealized influence, individual consideration, inspirational motivation and intellectual stimulation. The participants were asked to identify best and worst leaders around them and later they were exposed to the concepts of transformational, transactional and laissez-faire leadership. Participants were then required to associate their best and worst leaders with the concepts of different types of leaders. The focus, then, was shifted towards transformational leadership, the importance and implications of idealized influence, individual consideration, inspirational motivation and intellectual stimulation were discussed. Self reports and subordinate reports were matched to identify deficient avenues. Key attitudes in transformational leadership stature were identified.

Session 2:

Second session started with an introduction to goal setting theory. Importance of setting specific, difficult but attainable, goals was discussed in a lecture setting. Afterwards, a day long interactive session was conducted to identify appropriate goals and objectives for all participants according to their work requirements. Role playing and in basket exercises were conducted. The session concluded with a case study situation requiring transformational leadership exhibition by participants. Participants were then asked to come up with their goals and objectives in the next session.

Session 3:

Goals and objectives identified in the earlier session were revised and operational details were discussed. Transformational leadership attitude was the focus of the session. Role playing exercises were conducted.

Session 4:

This session was a booster that focused on the identification of any observable changes in participants' behavior with respect to the behavior recorded in their respective self reports obtained earlier. In order to serve this purpose, all participants were advised to record their self appraisals on daily basis.

RESULTS AND DISCUSSIONS

Pretest

We started our analysis by assessing difference between experiment and control group using descriptive statistics. Table 1 and Table 2 explain the state of two groups before experiment. Both groups were same in terms of group members I-e 12 members each. To evaluate the similarity among control and experiment group, we assessed both groups on four dimensions of Transformational Leadership and subordinates' satisfaction with supervisor. It was identified that there was insignificant variation in means values of first two dimensions of transformational leadership stature (IM & IS). For IC and II and satisfaction with supervisor, control group was having negligible higher values than the experiment group. It was assumed similar to the experimental group to safely argue that effective training in transformational leadership can still increase these two dimensions and satisfaction of experiment group over the control group in post test evaluations. Means values for Experiment Group on four dimensions of Transformational Leadership were IM (2.11) IS (2.08) IC (1.02) & II (2.65) respectively. Mean value of satisfaction with supervisor for the same group was 2.50. Means values for Control Group on four dimensions of Transformational Leadership were IM (2.37) IS (2.50) IC (2.36) & II (2.65) respectively. Mean value of satisfaction with supervisor for the same group was 2.90.

Table 1: Pretest Experimental Group					
	IM	IS	IC	II	SWS
Mean	2.113	2.088	1.725	2.650	2.50
Standard Deviation	.525	.747	.879	.583	.479
Where IM= Inspirational Motivation, IS= Intellectual Stimulation, IC= Individualized Consideration, II= Idealized Influence, SWS= Satisfaction with Supervisor					

Table 2: Pretest Control Group					
	IM	IS	IC	II	SWS
Mean	2.375	2.500	2.362	2.650	2.925
Standard Deviation	.3864	.8124	.894	.524	.534
Where IM= Inspirational Motivation, IS= Intellectual Stimulation, IC= Individualized Consideration, II= Idealized Influence, SWS= Satisfaction with Supervisor					

Post Test

Both groups were same in terms of group members I-e 12 members each. There was a significant increase in the post test readings of experiment group. Table 3 explains the positive change in transformational leadership stature and subordinate's satisfaction with trained supervisors. Post test reading of four dimensions of transformational leadership stature for the experiment group were IM (3.30), IS (3.10), IC (2.83) & II (3.85) respectively. Post test readings for satisfaction with supervisor were 3.40. Post test reading of four dimensions of transformational leadership stature for the control group were IM (2.68), IS (2.77), IC (2.76) & II (3.05) respectively. Post test readings for satisfaction with supervisor were 3.03. (See Table 4).

Table 3: Post Test Experimental Group					
	IM	IS	IC	II	SWS
Mean	3.300	3.175	2.830	3.850	3.400
Standard Deviation	1.026	1.307	.864	.800	.8224
Where IM= Inspirational Motivation, IS= Intellectual Stimulation, IC= Individualized Consideration, II= Idealized Influence, SWS= Satisfaction with Supervisor					

	IM	IS	IC	II	SWS
Mean	2.687	2.77	2.76	3.05	3.03
Standard Deviation	.473	1.05	.564	.670	

Where IM= Inspirational Motivation, IS= Intellectual Stimulation, IC= Individualized Consideration, II= Idealized Influence, SWS= Satisfaction with Supervisor

To identify the net effect of training intervention pretest reading of experiment group were subtracted from post test readings of experiment group. The resultant value was subtracted from the net value of control group to reach upon the statistics mentioned in Table 5.

	Transformational Leadership Behavior	Satisfaction with Supervisor
Mean	.798	.787
Standard Deviation	.686	.373

Table 5 explains the net effect of training intervention on change in transformational leadership behavior and satisfaction with trained supervisor. A significant increase of mean value (0.79) in overall transformational leadership behavior was observed. There was a significant increase of mean value (.78) in satisfaction with the supervisor. This reveals the effectiveness of training in improving the transformational leadership behavior.

Correlations

Results show a positive and significant relationship (.79) between transformational leadership training and satisfaction with supervisor. Pre-Training Motivation has a positive relationship (.51) with attitudinal outcomes of the training program. Individuals with higher training motivation were able to benefit more from transformational leadership training.

CONCLUSIONS

The results of the study have two outcomes. Firstly it explains the effectiveness of Transformational Leadership training. Secondly it narrates the relationship between pre-training motivation and training effectiveness. The results of this study are consistent with Barling et, al. (1996). Using the training methodology used in this research could increase transformational leadership behavior of trainees. However the effectiveness of this training design should be confirmed while using this design in different organizational and industrial settings. It is clear from the results that training can significantly improve

transformational leadership behavior. It is further identified that transformational leadership behavior has a positive impact on satisfaction of subordinates. This reveals that different organizational benefits can be earned from such trainings. Satisfied subordinates are likely to perform better and improved transformational leadership can increase organizational effectiveness.

An important finding of this study is the positive relationship between pre-training motivation and training effectiveness in leadership contexts. This finding is helpful to organizations and their trainers. Organizations should assess the pretraining motivation of their employees before sending them to a training program (especially Transformational Leadership Training). Keeping in view the results of the study, it is highly likely that people low in training motivation may not get real benefit from the training. So organization must identify the reasons for such lack of motivation. To get maximum benefit from investment on training, these organizations may need some OD interventions first and then they should train their employees. For trainers, this study offer an interesting insight, trainers must first assess the training motivation of participants and then design an appropriate program that ensures greater learning.

This study has certain limitations. The results are based on a smaller sample. Future research may include large sample including different organizations. The appropriateness of the training intervention used in this research should be validated in future research. Organizational and individual factors affecting the transfer of such trainings should be studied. Overall this study is a preliminary effort to validate the effectiveness of transformation leadership training using an experimental design. If such studies are repeated using different output criteria like organization citizenship behavior, commitment, stress etc, it will increase our knowledge about the effectiveness of transformational leadership training.

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THE ASSOCIATION BETWEEN TQM AND IMPROVED PROFITABILITY: AN EMPIRICAL STUDY OF PUBLIC MANUFACTURING FIRMS

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ABSTRACT

This research investigates whether TQM is associated with improvement in profitability, a primary goal of the firm. Previous research of this strategic management initiative has led to conflicting conclusions and there have been many calls for further research.

This study is unique in its approach of 1) creating a metric of extent of TQM use, and then 2) linking the metric to overall archival profitability measures. TQM theory, empirical research, and practice provide the basis for eight constructs that define TQM. Confirmatory factor analysis was used to establish reliability and validity of the constructs. Multiple regression analysis was used to identify the association between the extent of TQM use and improvement in profitability measured by ROA and ROI. Dependent and control variable information was obtained from Compustat, and other data was obtained through a survey of 213 high-level manufacturing executives.

Results show a significantly positive relationship between TQM and improved profitability, and provide support for the claims of TQM advocates.

INTRODUCTION

The purpose of this research is to empirically investigate the relationship between Total Quality Management (TQM) and improved profitability. TQM is an intuitively appealing philosophy and strategic initiative adopted by many firms with the expectation that TQM use is associated with enhanced competitive ability and profitability (Deming, 1982; Walton, 1986). Despite continuing and plentiful TQM research by all business disciplines, researchers have long noted that there is limited empirical evidence substantiating the contention that TQM is associated with improved profitability (Hendricks and Singhal, 1997, 2001; Lemak and Reed, 1997; Easton and Jarrell, 1998; Ericksson and Hansson, 2003; York and Miree, 2004). Conclusions are mixed as to whether implementing a total quality program is worth the effort, and researchers still believe that further investigation is necessary to determine whether there are financial benefits from implementing TQM (Powell, 1995; Ericksson and Hansson, 2003; York and Miree, 2004). Indeed, it has been estimated by some researchers that failure rates of TQM programs range between 60% and 67% (Dooyoung, et al., 1998). This research seeks to show that when TQM theory is embraced as a whole and when the essential elements of TQM are measurably in evidence, this well-known strategic initiative is significantly associated with improved profitability.

This study begins with an exhaustive search of the TQM literature and empirical research defining the characteristics of TQM to ensure that all previously identified elements of TQM would be included in our definition of TQM. This search resulted in identification of eight constructs defining TQM in a manner consistent with TQM theory, prior empirical research and current practice. These constructs are validated using confirmatory factor analysis. This part of our study is similar to prior research seeking to define TQM (e.g., Saraph et al., 1989, Flynn et al., 1994, Anderson et al., 1995; Black and Porter, 1996; Ahire et al., 1996), and incorporates its results in the eight constructs developed in this research.

Our research is unique in its approach of (1) creating a metric of TQM use within firms and (2) linking this metric to archival measures of profitability (ROA and ROI) using multiple regression. Our method tests the idea that since theory states that TQM is a continuous improvement initiative, the more effectively TQM is used, the more processes improve. As processes continue to improve, profitability, the dependent measure in this study, should continuously improve relative to other companies. This method does not require identification of an implementation date as in an event-study (using TQM is, in effect, a continuous “event”), but does require a complete, theory-based measure of the extent of TQM use, and a reliable, composite measure of after-the-fact profitability change.

In contrast with the studies that attempt to link TQM and market returns, identifying the relationship between TQM and accounting profitability directly tests the common initial management assertion that TQM leads to increased profits (anticipation of which increases market returns). Our results identify a significantly positive relationship between the extent of use of a fully defined and embraced TQM program and improved profitability over three years using archival measures of profitability. These results are robust to alternative measures of the dependent and independent variables, and to alternative specification of the model.

The remainder of this paper is organized as follows: Section II develops the hypothesis; Section III reviews prior literature and details the construction of the TQM variable used in this research; Section IV describes the research methodology and variables used; Section V includes variable definitions and hypothesis testing; Section VI presents Results; and Section VII contains the summary and research limitations.

HYPOTHESIS DEVELOPMENT

TQM has been promoted for many years as a means for businesses to achieve a host of desirable goals. These goals include becoming and remaining competitive in the marketplace, providing continuous process and efficiency improvements, and maintaining a strong focus on customer satisfaction, all of which work together to assure that the business will flourish, employees will remain employed, and profitably of the firm will continue into the future (Deming, 1982, Walton, 1986). Many firms have taken the next logical step and justified their investment in a TQM initiative by asserting that TQM would lead to improved profitability on a continuing basis, with the implied ultimate benefit of increasing shareholder value through growth in stock prices. TQM experts and supporters have concurred with this assertion and stated or implied that TQM, when properly implemented, would bring improved overall results (e.g., Crosby, 1979; Deming, 1982; Walton, 1986).

Since it has been well established that a primary goal of an organization is to achieve and maintain profitability in order to maximize shareholder value, it is not surprising that prior research has sought to associate total quality management with improved profitability. Empirical research has had difficulty in

providing a convincing association between TQM and profitability improvement, and the mixed results of many studies has resulted in calls for additional research (e.g., Powell, 1995; Hendricks and Singhal, 1997; Bergquist and Ramsing, 1999; Eriksson and Hansson, 2003; York and Miree, 2004).

There have been empirical studies linking varying measures of TQM with improved stock performance (Easton and Jarrell, 1998; Hendricks and Singhal, 2001). However, measuring the impact of TQM on stock performance can be potentially contaminated by complex capital structural changes, such as changes in relative debt, its composition, and liquidity measures. These contaminating effects are difficult to measure and control for, while ROA and ROI are direct profitability measures.

Other studies associate their measures of TQM with improvement in non-financial and/or partial elements of financial performance (Shetty, 1993; Hendricks and Singhal, 1997; Samson and Terziovski, 1999; Reed et al, 2000; Allen and Kilmann, 2001; Tena et al, 2001; Ericksson and Hansson, 2003; Rahman and Bullock, 2004), and considerable research has been devoted to breaking down the elements of TQM to determine whether one or more of them can be linked to organizational improvement of some type (Garvin, 1987; Madu et al, 1995; Grandzol and Gershon, 1997; Samson and Terziovski, 1999; Rahman and Bullock, 2004). More recent studies have found an association with TQM and improved performance in certain levels of organizational performance, but have relied on self-reported financial dependant variable data (Kaynak, 2003; Sila, 2007). Although Kaynak's (2003) research relied on a self-reported dependent variable, her research design and major hypothesis that "quality performance is positively related to financial and market performance" is supported. Sila (2007) examined whether contextual factors, such as company size and scope of operations might affect how TQM was implemented and whether the outcome was positive. However the overall findings did not support the argument that TQM and TQM-performance relationships are context-dependent.

This research examines TQM as a whole, rather than deconstructing it into parts, since the fathers of TQM believed that true total quality management required all elements to be present (e.g., Crosby, 1979; Deming, 1982; Walton, 1986). This research also uses more objective dependent variables than most previous studies since dependent variables are provided by *Compustat* rather than being self reported. The mixed results of past research make it important to provide additional empirical evidence that TQM does lead to profitability.

Enormous capital investments have been made in quality programs throughout the world. Rational business organizations would not make such a large investment without expecting an overall positive financial return. Because of these long-standing corporate expectations and the continuing call for more empirical research examining the relationship between TQM and expected profitability improvement (Powell, 1995; Hendricks and Singhal, 1997; Bergquist and Ramsing, 1999; Eriksson and Hansson, 2003; York and Miree, 2004), the following hypothesis is proposed:

Hypothesis: There is a positive association between the extent of use of TQM and improvement in profitability.

PRIOR LITERATURE REVIEW AND CONSTRUCTION OF TQM VARIABLE

One of the difficulties of TQM research has been the inability to agree on the common elements of total quality management (Black and Porter, 1996; Ahire et al., 1996; Ericksson and Hansson, 2003). A

review of the literature and prior research reveals that the definition of TQM is not consistent between researchers, and that many empirical studies have only examined the impact of one or two dimensions of TQM on performance (Samson and Terziovski, 1999; Tena et al., 2001; Rahman and Bullock, 2004). Kaynak (2003) identified all TQM practices as identified in previous measurements studies on TQM and used these to examine the effect on financial and market profitability.

Many previous studies have selected quality award winners to proxy for extent of TQM use (Shetty, 1993; Hendricks and Singhal, 1997, 2001; Ericksson and Hansson, 2003; York and Miree, 2004). The selection of award winners removes the necessity of defining TQM and then measuring the extent of use within a firm. However, there are problems using award winners as proxies of TQM. First, there is no agreement among quality award programs as to the common characteristics of TQM. This lack of consensus has resulted in an abundance of quality awards with inconsistent criteria. The most recognized award, the Malcolm Baldrige National Quality Award, has criteria that not only differ from other awards, but the criteria are altered each year. Second, most quality awards give significant weight to “business results,” (Baldrige National Quality Program, 2005), with particular attention given to profitability improvement. It is unlikely that any firm would have won an award, or even applied, without already having attained significant improvement in profitability. Third, quality awards are often presented not to an entire company, but to a specific unit or division of a company (York and Miree, 2004) so that the entire organization is not represented. Lastly, using only quality award winners does not focus directly on TQM, but rather on the related event of winning a quality award, and ignores firms which use TQM but do not win awards, making it difficult to generalize results to the entire population.

Only occasionally (Saraph et al., 1989; Flynn et al., 1994; Anderson, et al., 1995; Black and Porter, 1996; Ahire et al., 1996, Kaynak, 2003) have there been empirical studies that have attempted to synthesize quality management attributes into a generic whole, thereby providing a framework for the study of a fully-defined total quality management initiative. The current study begins by following in the tradition of Saraph et al. (1989), Flynn et al. (1994), Anderson et al. (1995), Kaynak (2003), and others, by reviewing literature, prior research, and examining the criteria of the Baldrige Award to identify common dimensions of TQM that are in harmony with all prior work devoted to defining the characteristics of a fully implemented TQM program.

The constructs developed by prior research are detailed in Table 1, and the resulting eight constructs identified in this study are shown on Table 2, which also traces the relationship of each construct to prior sources.

Saraph et al. (1989) were the first to characterize quality constructs underlying total quality and empirically test them (Table 1). Their seminal study focused on a fairly evenly divided group of manufacturing and service firms in the Minneapolis/St. Paul area and used a survey they developed based on previous quality literature.

A. Saraph et al. (1989)	B. Flynn et al. (1994)	C. Anderson et al. (1995)	
1. Role of top management	1. Top management support	1. Visionary leadership	
2. Role of quality department	2. Quality information	2. Internal & external cooperation	
3. Training	3. Process management	3. Learning	
4. Product/service design	4. Product design	4. Process management	
5. Supplier quality mgt	5. Workforce management	5. Continuous improvement	
6. Process management	6. Supplier involvement	6. Employee fulfillment	
7. Quality data and reporting	7. Customer involvement	7. Customer satisfaction	
8. Employee relations			
D. Black and Porter (1996)	E. Ahire et al. (1996)	F. Baldrige Award Criteria (2005)	Points
1. Corporate quality culture	1. Top mgt commitment	1. Leadership	120
2. Strategic quality mgt	2. Customer focus	2. Strategic planning	85
3. Quality improvement measurement systems	3. Supplier quality management	3. Customer and market focus	85
4. People and customer management	4. Design quality management	4. Measurement, Analysis, and Knowledge Management	90
5. Operational quality planning	5. Benchmarking	5. Human Resource Focus	85
6. External interface mgmt	6. SPC usage	6. Process Management	85
7. Supplier partnerships	7. Internal quality information usage	7. Business results	450
8. Teamwork structure	8. Employee empowerment		1000
9. Customer satisfaction	9. Employee involvement		
10. Communication of improvement info	10. Employee training 11. Product quality		
	12. Supplier performance		

Flynn et al. (1994) continued the work of Saraph et al. (1989) by identifying and substantiating seven “key dimensions of quality management,” (1994, pp. 339) and then rigorously testing these dimensions for reliability and validity (Table 1). They made a case for clearly separating key management practices (“inputs”) from quality performance (“outputs”), and developed a reliable and valid instrument to identify quality management practices. Anderson et al. (1995) examined the Deming Management Method (Walton, 1986) in an effort to develop a theory of quality management. They used a Delphi study to arrive at seven constructs underlying the Deming Method (Table 1). Based on a review of the literature and analysis of the Baldrige Award criteria, Black and Porter (1996) identified ten critical factors of TQM (Table 1). They compared their model to the Saraph et al. (1989) framework and noted many similarities. The most obvious difference between the two models is that the Saraph et al. (1989) study lacked any constructs relating to customer satisfaction or customer relationship management.

Ahire et al. (1996) reviewed the quality management literature, literature on general operations management and organizational behavior, and the Malcolm Baldrige Award criteria to synthesize and test 12 constructs of integrated quality management strategies (Table 1). Many empirical studies have used the Malcolm Baldrige National Quality Award criteria as a basis for establishing TQM constructs (Dean and Bowen, 1994; Wisner and Eakins, 1994; Black and Porter, 1996; York and Miree, 2004). The Baldrige Award is highly regarded by industry and the general public, and is thought by many to proxy for TQM.

The eight constructs synthesized from prior literature and research are shown in Table 2. These constructs, which include all the generally accepted aspects of quality management, are supported both by quality literature and prior research. It is notable that these constructs are closely related to the TQM practices identified by Kaynak (2003), which she identified from previous measurement studies on TQM. These constructs then formed the basis for the development of the survey instrument used for data collection to construct the variable of interest used to test the hypothesis.

TQM Constructs - Current Study	TQM Constructs - Prior Research and Baldrige Award Criteria (2005) (Refer to Table 1 above)
1. Top Management Commitment	A(1) B(1) C(1) D(1,2) E(1) F(1,3)
2. Customer Focus	B(7) C(7) D(9) E(2) F(6)
3. Supplier Relationships	A(5) B(6) C(2) D(7) E(3,12) F(5,7)
4. Employee Training	A(3) B(5) C(3) E(10) F(4)
5. Employee Empowerment	A(8) B(5) C(6) E(8) F(4)
6. Continuous Improvement Tools	A(7) B(2) D(3,10) E(5,6,7) F(2)
7. Design and Process Improvement	A(4,6) B(3,4) C(4,5) D(5) E(4) F(5)
8. Internal Cooperation & Open Organization	A(8) B(5) C(2) D(4,6,8) E(9) F(4)
Constructs not included: a) Product Quality (E, 11) - an “output” of quality management, rather than a quality “input” b) Business Results (F, 7) - an “output” of quality management, rather than a quality “input”	

A description of the eight constructs used to define extent of TQM use is as follows:

Top Management Commitment

Top management is responsible for strategic planning, setting goals, authorizing strategic initiatives and allocating resources to enable implementation and support of all plans and initiatives. Top management commitment is necessary to implement and sustain a quality program and is an essential element for achieving successful implementation of a total quality program (Deming 1982; Garvin 1987; Leonard and Sasser, 1982; Saraph et al., 1989; Ahire et al., 1996). Six survey questions were used to measure top management commitment.

Customer Focus

Empirical research and the Baldrige Award criteria agree that total quality management cannot exist without a strong customer focus. A main point of Deming's *Chain Reaction* (1982) is that the satisfaction of the customer is crucial to assure the continuation of the firm. Systems and processes devoted to identifying the customers' needs, desires and perspectives must be in place to assure continued customer satisfaction (GAO, 1991; Dean and Bowen, 1994; Anderson et al., 1995; Madu et al., 1995; Black and Porter, 1996; Ahire et al., 1996; Baldrige National Quality Program, 2005). Many firms now use customer satisfaction as the final measure of quality, and it is common for businesses to offer a 100 percent satisfaction guarantee (Motorola, Honda, Ford, Wal-Mart, Barnes & Noble, etc.). The Baldrige award criteria (Baldrige National Quality Program, 2005) also include customer and market focus (8.5% of total possible points). Therefore customer focus was included as an important element of total quality.

Supplier Relationships

Deming (1982) was the first to advocate the establishment of long-term supplier relationships and limiting the number of suppliers used by firms based on adherence to continuously improving quality standards. Many others agree that supplier relationships are critical to achieving a successful TQM program (Saraph et al., 1989; Flynn et al., 1994; Black and Porter, 1996; Ahire et al., 1996). By selecting and monitoring suppliers based on quality criteria, research has found a link with improved financial and operational performance (e.g., Ittner et al., 1997). Having reliable sources of high-quality raw materials reduces costs related to inspection of in-coming materials and keeps production running smoothly by reducing down time from defective or back-ordered items.

Employee Training

The importance of employee training can be traced back to Shewhart (1931) when he taught production workers statistical process control techniques, which were designed to reduce variation and maintain control of quality throughout the production process.

Deming stressed employee education and training in his famous *14 Points* (1982). Total quality management has been described as relatively complex since it combines concepts and practices drawn from a variety of disciplines (e.g., management, marketing, management accounting, psychology, engineering, etc.). It is also extremely comprehensive since it involves all aspects and areas of an organization. Therefore, it is important that all employees receive formal and continuous training in both total quality concepts and tools and job specific information to be effective (Ishikawa, 1976; Crosby, 1979; Juran and Gryna, 1980; Deming, 1982; Saraph et al., 1989; Ahire et al., 1996).

Employee Empowerment

Empowering employees encourages them to take individual responsibility for their work and to be more proactive in finding solutions for problems as they arise. This leads to the achievement of quality goals. Ahire et al. (1996, pp. 31) state "employee empowerment is essential to improve in-process quality control."

One definition of empowerment is “giving workers the training and authority they need to manage their own jobs” (Raiborn et al., 1996, pp. 49). The cost of quality is significantly reduced by detecting and correcting errors during in-process production rather than after product completion (Crosby, 1979). Empowered workers are encouraged to prevent and detect errors early in the production process rather than relying on final inspection. Thus empowerment leads to significant savings by reducing defects and the need for rework.

Continuous Improvement Tools

Specific quality tools are available to provide objective ways of measuring and controlling variation in the production process, thus insuring continuous improvement of processes and products. Three well-accepted improvement tools were included in this construct. The first tool is SPC, statistical process control methods first developed by Shewhart (1931) and Deming (1982). Many other researchers have concurred that SPC is an effective way to improve quality on a continuous basis (Garvin, 1987; Flynn et al., 1995; Ahire et al., 1996; Grandzol and Gershon, 1997). A second well-known continuous improvement tool is benchmarking. Benchmarking seeks out best practices and products from within the firm or among competitors so that processes and products can be improved by learning from the experts. A third important continuous process tool is the collection and use of quality data. Quality data includes both financial and non-financial information that is shared with all employees and provides the necessary feedback to achieve continuous process improvement throughout the firm.

Design and Process Improvement

Design and process improvement included the design and control of setup procedures, maintenance and repair (Adam et al., 1981), zero-defect planning (Crosby, 1979), improvement through problem analysis (Ishikawa, 1976), and design process control (Grandzol and Gershon, 1997). The Ernst & Young *Best Practices Report* (1993) found that all process improvement practices proved beneficial to firms at all levels of performance.

Internal Cooperation and Open Organization

A total quality culture emphasizes cooperative behavior between organizational members (Bushe, 1988; Bossink et al., 1992 and 1993), and encourages sharing information and assisting coworkers to accomplish tasks and solve problems (Waldman, 1994). Leonard and Sasser (1982, pp.168) observed that the most effective quality programs exhibited open and fluid participation that “cut across traditional organizational boundaries.”

RESEARCH METHODOLOGY AND VARIABLE DESCRIPTION

Population and Data Collection Method

Surveys have been successfully used in a number of other TQM studies (Saraph et al., 1989; Arthur D. Little, 1992; Powell, 1995; Ahire et al., 1996; Ittner and Larcker, 1997), and are a preferred method for

collecting data from a large population (Babbie, 1990). In-depth interviews were not used since that method would have resulted in a much smaller sample, and results would have been difficult to generalize to the entire population.

This study used a large-scale mail survey that sampled publicly owned U.S. manufacturing firms. Manufacturing firms were selected since they were among the first significant adopters of TQM (Arthur D. Little, 1992; Powell, 1995) and would show a wide range of the extent of use. It has also been argued "...that the performance of manufacturing firms is likely to deteriorate if they fail to adopt an appropriate manufacturing strategy (such as the use of TQM practices) to deal with the competitive threats and challenges" (Chong, et al., 2004) since they exist in an environment of intense market competition. Therefore manufacturing firms represent an excellent population of interest since there is a high expectation that they will have adopted TQM practices. By selecting only public manufacturing firms, financial data was available through the *Compustat* database, which eliminated the uncertainty of self-reported dependent variables

The targeted respondents were high-ranking executives familiar with production and operations practices throughout the entire company (e.g., vice president of production, quality, operations, and logistics).

According to Phillips (1981) and Miller and Roth (1994) higher-ranking informants are more reliable sources of information than their lower level counterparts.

Development of Survey Instrument

The survey instrument was developed based on the eight TQM constructs described in Section III. Questions were developed after a thorough review of quality management survey questions found in prior research (e.g., Saraph et al., 1989; Flynn et al., 1994; Black and Porter, 1996; Ahire et al., 1996). They were also cross-referenced with total quality attributes found in the theoretical literature (Shewhart, 1931; Crosby, 1979; Juran and Gryna, 1980; Deming, 1982; Ishikawa, 1985; Walton, 1986; Feigenbaum, 1991). The questions were designed to measure extent of use of practices associated with each of the eight constructs previously identified. Questions were reviewed, critiqued by other quality researchers, accounting and supply chain management faculty at several universities and subjected to several rounds of revisions. Careful attention was given to making sure that the wording of each question was clear, concise and described only one construct.

The survey made no mention of total quality management, and was titled "Logistics Performance and Manufacturing Supply Chain Management Practices Research Study" so that respondents would not be biased for or against TQM. The survey contained a total of 55 questions relating to the extent of use of quality practices at each firm.

The order of the survey questions was scrambled and some questions were reverse coded to minimize common method variance (Babbie, 1990). The survey also collected the years of use of other common strategic initiatives (JIT, ABC, and BPR) for use as control variables.

Survey Procedure and Response

The initial population was all public manufacturing firms listed on *Compustat* with SIC codes 2000 – 3999. These firms were cross-referenced against the *Dunn & Bradstreet Million Dollar Directory* to obtain specific names and title of potential respondents so that surveys could be sent to a specific person. This

resulted in a total of 1,962 firms. A personalized letter accompanied each survey and the respondents were assured that confidentiality would be maintained. As an incentive to respondents, they were invited to request a *Benchmarking Report* that provided aggregate information from the study as to their firm, their industry, and all responding manufacturing firms. Reminder postcards were mailed out approximately three weeks after the first mailing. Another letter and copy of the survey were mailed to non-respondents six weeks later. A final reminder postcard was mailed two weeks following the second survey mailing.

The number of possible respondents was reduced to 1,766 due to reasons such as surveys returned by the post office as undeliverable, inactive or bankrupt companies, or companies incorrectly identified as manufacturers by *Compustat* (Table 3). The initial number of complete responses was 257, a response rate of 14.6%. However, some of the companies that originally responded did not have *Compustat* data available for three years following the survey, and this caused the number of complete responses to drop to 213, a response rate of 12.1%. Mail surveys are sent to a reluctant population and have become so common that they are prone to be ignored. The respondents in this study were top executives who are well known to discard surveys not directly related to their own job performance. A recent study by Newby et al. (2003) examined response rates for mail surveys and found that the average response rates for complete survey instruments were 12.9%. Therefore the response rate was deemed acceptable.

Original number of surveys mailed		1,962
Less:		
• Returned by post office (e.g., address changed – not forwardable)	94	
Deleted from survey – <i>Compustat</i> information is missing or company is not a manufacturer	66	
Returned by company (e.g., “company is not a manufacturer” or “against company policy”)	31	
Company inactive, liquidated or bankrupt	<u>5</u>	
		<u>(196)</u>
Total possible survey respondents		<u>1,766</u>
Usable surveys – final sample		<u>213</u>
Survey response rate		<u>12.1%</u>

	Number	Percentage
Vice Presidents (Mfg, Operations, Logistics, Quality, etc.)	118	55.4%
Presidents	31	14.5
Managers (General, Mfg, Materials, Logistics, etc.)	27	12.7
Directors (Mfg, Operations, Quality, Supply Chain Management, etc.)	25	11.7
CFO	4	1.9
CEO	3	1.4
Controllers	2	0.9

	Number	Percentage
COB	1	0.5
Chief Procurement Officer	1	0.5
Brewmaster	<u>1</u>	<u>0.5</u>
	<u>213</u>	<u>100.0%</u>

Responses were received from a wide range of manufacturing firms representing 18 of the 20 two-digit SIC codes as shown in Table 5.

			Number of Responses	Totals	Percentage
SIC	2000	Food & Kindred Products	14		
	2100	Tobacco Products	0		
	2200	Textile Mill Products	5		
	2300	Apparel & Other Finished Products made from Fabrics & Similar Materials	6		
	2400	Lumber & Wood Products, Except Furniture	6		
	2500	Furniture & Fixtures	3		
	2600	Paper & Allied Products	7		
	2700	Printing, Publishing & Allied Industries	3		
	2800	Chemicals & Allied Products	14		
	2900	Petroleum Refining & Related Industries	<u>2</u>		
				60	28.2%
SIC	3000	Rubber & Miscellaneous Plastics Products	7		
	3100	Leather & Leather Products	0		
	3200	Stone, Clay, Glass & Concrete Products	5		
	3300	Primary Metals Industries	12		
	3400	Fabricated Metal Products, Except Machinery/Transportation Equipment	12		
	3500	Industrial & Commercial Machinery & Computer Equipment	33		
	3600	Electronic & Other Electrical Equipment & Components, Except Computer Equipment	39		
	3700	Transportation Equipment	12		
	3800	Measuring, Analyzing & Controlling	26		

			Number of Responses	Totals	Percentage
		Instruments			
	3900	Miscellaneous Manufacturing Industries	<u>7</u>		
				<u>153</u>	<u>71.8%</u>
				<u>213</u>	<u>100.0%</u>

Validation of the Eight Constructs

Confirmatory factor analysis was used to validate the constructs. The following tests were performed to assure validity of the constructs and reliability of the survey instrument:

Tests of Unidimensionality

Unidimensionality was tested by examining the survey question correlations. Each question was found to load on the expected construct indicating that all of the constructs were unidimensional and did not relate to the other constructs. The goodness of fit index (GFI) for each construct ranged from .98 to 1.00, the adjusted goodness of fit index (AGFI) ranged from .94 to .99, and the Bentler-Bonett normed fit index (NFI) ranged from .94 to .99, all of which indicate that the models fit extremely well; convergent validity is strong.

All of the factor loadings representing the observed variables (survey questions) were significant, except for one question relating to supplier relationship and one question relating to internal cooperation and open organizations. These two questions were dropped, which improved the significance of the remaining questions. The theta-deltas, which relate to the error terms of the observed variables, were all significant.

Test of Discriminant Validity

Discriminant validity testing was performed to establish that the constructs were distinctly different from each other. The first step was to examine the correlations between the constructs. These were all quite low, with an average correlation of .21. Next all possible combinations of two constructs were run using two models. In the first model the correlations between the two constructs were allowed to be free. In the second model the correlations between the constructs were fixed at 1.0. If the difference between the Chi-Square statistics is significantly better by allowing the correlations to be free, then evidence of strong discriminant validity is present. In all of the combinations, the Chi-Square statistic significantly deteriorated when the two constructs were forced into one. This shows that each construct was significantly and distinctly different from the other constructs and that discriminant validity was been achieved.

Test of Reliability

Cronbach alpha coefficients for this study ranged from 0.89 (continuous improvement tools) to 0.59 (customer focus). Alpha scores that are close to 0.70 or above are considered sufficient for research purposes (Nunnally, 1978). The alpha score for the customer focus construct was lower than recommended. This low alpha score may have been the result of using only five questions to measure this construct, since adding questions to measure a construct usually raises the alpha score. A strong effort was made to keep the survey as short as possible to increase the response rate. Since this construct has been strongly supported in theory and prior research, the customer focus construct was retained. Including it increased the amount of noise in the TQM variable, and decreased the chances of finding significant results.

Test for Non-Response Bias

Testing for non-response bias was accomplished by comparing the mean responses for all the survey questions using the responses received from the 1st mailing as Group 1 (n=117) and the responses received from the 2nd mailing as Group 2 (n=140). Approximately five percent of the questions should be significantly different by chance. Parametric t-tests reveal that only two questions had medians that were significantly different at the five percent level and four questions were significantly different at the 10 percent level. Non-parametric Wilcoxon scores show two question means were significantly different at the five percent level, and five questions were significantly different at the ten percent level.

VARIABLE DEFINITIONS AND HYPOTHESIS TESTING

The impact of the extent of TQM use on a firm's improvement in profitability is examined using the following model:

$$\Delta \text{ PERFORMANCE} = f(\text{Extent of TQM Use, Control Variables})$$

where $\Delta \text{ PERFORMANCE}$ is the change in return on assets (ROA), measured by the sample median-adjusted three-year difference between year $t-1$ (year before the survey) and $t+2$ (two years after the survey) as provided by *Compustat*. A three-year window was selected since results of macroeconomic conditions would more likely affect the results with a larger time frame. The extent-of-TQM-use metric (TQM) is described in detail below. The dependent variable and all control variables are also discussed below.

Return on Assets (ΔROA)

Return on Assets (ROA) was selected as the primary measure of overall profitability. Return on investment (ROI) was also used as an alternative measure in sensitivity analyses. Several previous studies have used ROA as a dependent variable to measure the association of TQM or portions of TQM with improvement in profitability. For example, Ittner and Larcker (1995), Hendricks and Singhal (1997), Ittner et al. (1997), and Kaynak (2003) use ROA in their studies of TQM and supplier strategies. For this study ROA was defined as income before extraordinary items scaled by total assets. This definition is widely

accepted as a composite profitability performance variable in empirical research (Jacobson, 1987; Balakrishnan et al., 1996; Kinney and Wempe, 2002).

Testing improvement in profitability can pose significant measurement problems. As Roberts and Silvester (1996) observe, many complications can arise, including:

- Modeling a company's "expected profitability" against realized profitability achieved after use of an initiative,
- Controlling for concurrent changes in the organization,
- Controlling for the breadth of use and integration of initiatives throughout the firm.

Generally, comparison of "expected profitability" requires either specification of control variables, which describe the industry in which the firm operates, or using industry mean- [or median-] adjusted measures. In this study, expected profitability is addressed through the use of sample industry median-adjusted measures, and by controlling for firm size. Concurrent changes in the organization are addressed through identifying and controlling for use of other strategic initiatives (ABC, JIT, and BPR) and for prior performance. Control for use of other initiatives separates the effects of individual initiatives and allows comparison of users of an individual initiative to non-users of that initiative.

Variable of Interest: TQM

The TQM metric measures the extent of use of TQM within a firm. The variable was calculated using the responses to the 55 management practices questions from the survey. As mentioned earlier confirmatory factor analysis was used to create and validate the constructs. Factor loadings were used to determine the relative percentage assigned to each survey question within each construct. The survey response for each question within a construct was multiplied times its respective percentage (determined by factor loadings), and the percentages for each construct were sample median-adjusted. Each median-adjusted construct score was combined to calculate a total TQM extent-of-use score for each firm. Since one of the primary goals of this research was to use a fully defined TQM variable, and there has been little agreement as to which constructs are most or least important, each construct was given equal weight. In this study it is expected that the regression coefficient associated with the variable of interest will be positive.

Control Variables

Other Strategic Initiatives (JIT, BPR, ABC): The survey instrument captured information as to the number of years that each firm supported a formal TQM program, as well as years of use of three other well-known strategic initiatives: JIT, ABC, and BPR. Any value above five years relating to JIT, ABC, and BPR was reduced to five years since after five years it would be expected that benefits would be optimized. The years of formal TQM use was not used in the regression. This question was not the focus of the paper and was included at the end of the survey with identical questions related to ABC, JIT, and BPR. Our purpose in including TQM was to help disguise that the survey was really all about TQM, and was not used to establish a "start date" for any of the initiatives.

Level of Performance (ROA-1): As has been noted by Balakrishnan et al. (1996) in their discussion of JIT, a firm's pre-adoption operating efficiency will influence its ROA response to the increased efficiency of initiative use. Because it appears that there are continuing pressures that tend to pull the performance of a firm towards the average (Bernard, 1994), higher performing companies may need to implement business initiatives just to retain their advantage, rather than to show improvement. This condition causes problems in detecting the association of the initiatives with improved profitability (Husan and Nanda, 1995). In addition, firms are generally unable to sustain extremely poor performance for an extended period of time. They must either improve their performance towards the mean or go out of business, and thus would not be included in a cross-sectional study. These conditions effectively create boundaries around the performance of a sample firm, with a performance ceiling limiting the improvement of top performers and a floor limiting the depth to which a poor performer can descend without going out of business.

Significance of the variable of interest could result from the lack of control for the effects of mean reversion. If below-average performers tend to implement more initiatives than successful firms, an upward change in performance may be due to the pressures noted above that tend to pull the performance of firms towards the mean, rather than the effects of initiatives. To control for the effects of mean reversion, industry mean-adjusted beginning performance (t-1) is included as an independent variable. It is expected that the sign of this regression coefficient will be negative, indicating that performance is drawn toward the mean.

Firm Size (SIZE): Previous research has demonstrated that size of a firm is important and explains cross-sectional variation in profitability (Capon et al., 1988; Fama and French, 1992; Bartov, 1993). As in other research (Kaynak, 1996) total revenue was used to control for size. The firm size variable was measured as the natural logarithm of beginning of measurement period (t-1) total revenue. No prediction of sign of the regression coefficient was made.

Regression Model: Testing of the hypothesis was achieved through estimation of the following OLS multiple regression:

$$\Delta ROA = \alpha + b_1 TQM + b_2 JIT + b_3 BPR + b_4 ABC + b_5 ROA-1 + b_6 SIZE + \epsilon$$

The expected signs of the coefficients are as follows: b_1 through $b_4 > 0$; $b_5 < 0$; b_6 not predicted.

RESULTS

Descriptive Statistics

Statistics relating to the years of use of formal TQM, JIT, BPR, and ABC programs are reported in Table 5, Panels A and B. For this research sample TQM was the most commonly supported strategic initiative (139 firms, 65%), and ABC was the least commonly supported initiative (64 firms, 30%). A large percentage (35%) reported no commitment to a formal total quality program. (This is another reason for defining TQM as the extent of use of practices common to all TQM programs. It is possible that firms do not have a formal TQM program, but actively incorporate many TQM practices and strategies in their manufacturing operations.) More than half of the sample reported that they had no formal programs for JIT (56%), BPR (64%), or ABC (70%). Of the 139 firms that reported formal TQM programs, 42% percent (90)

reported that their program had existed for five or more years. The second most commonly supported initiative was JIT with 93 firms (44%), of which 63 (30%) had been in existence for five years or more.

Table 6: Descriptive Statistic													
Panel A													
(N=213)													
Years of Formal Initiative Use (% of Total Sample)													
Initiative	0	%	1	%	2	%	3	%	4	%	5 or >5	%	Total
TQM	74	35%	10	5%	12	5.5%	12	5.5%	15	7%	90	42%	213
JIT	120	56%	6	3%	11	5%	7	3%	6	3%	63	30%	213
BPR	137	64%	14	7%	8	4%	13	6%	8	4%	33	15%	213
ABC	149	70%	11	6%	9	4%	2	1%	5	2%	37	17%	213

Table 6: Descriptive Statistics (Continued)				
Panel B				
(N=213)				
Non-Users vs. Formal Users of Initiatives				
Initiative	Non-Users (years)	%	Formal Users (years)	%
TQM	74	35%	139	65%
JIT	120	56%	93	44%
BPR	137	64%	76	36%
ABC	149	70%	64	30%

The correlation matrix of the main variable of interest (TQM) and all control variables is shown in Table 5, Panel C. As can be seen, use of initiatives was significantly positively correlated, with individual correlations ranging from 0.202 for ABC with JIT, to 0.406 for JIT with TQM. Due to these correlations it was important to control for these other initiatives to more clearly isolate the effects attributable to TQM.

Table 6: Descriptive Statistics (Continued)							
Panel C							
(N=213)							
Correlation Matrix of the Independent Variables							
	Δ ROA	ROA-1	SIZE (ln REVENUE)	TQM	JIT	ABC	BPR
Δ ROA	1						
ROA-1	-0.434	1					
SIZE (ln REVENUE)	.183**	0.109	1				

Table 6: Descriptive Statistics (Continued)							
Panel C							
(N=213)							
Correlation Matrix of the Independent Variables							
	Δ ROA	ROA-1	SIZE (ln REVENUE)	TQM	JIT	ABC	BPR
TQM	.147*	0.039	.354**	1			
JIT	0.011	.201*	.335**	.406**	1		
ABC	0.074	-0.111	-0.006	.245**	.202**	1	
BPR	0.131	-0.063	.247**	.360**	.304**	.388**	1
* = Significant at $\alpha=0.05$							
** = Significant at $\alpha=0.01$							

Test of Association Between TQM and Profitability

Results of the formal test of the hypothesis are reported in Table 7. Regression diagnostics reveal no serious multicollinearity problems. The condition index and variance inflation factors are well within the guidelines established by Belsley et al. (1980). The model was highly significant with an F-statistic of 107.534 and an adjusted R^2 of 0.7653. Heteroskedasticity was identified when firms were partitioned into high and low performers (Table 8). T-statistics and p-values are presented after correction for the inconsistent estimate of the covariance matrix. TQM has a highly significant positive effect (t-value = 2.904, p-value = 0.002). These results confirm our hypothesis and find that there is a significant positive association between the use of TQM and improvement in profitability.

Table 7: Regression Results					
(N=213)					
Regression of Industry Mean-Adjusted 3-Year Change in ROA					
On Level of Use of TQM with Control for JIT, BPR, ABC, Level of Beginning Prior Performance, and Size					
Δ ROA = $\alpha + b_1$ TQM + b_2 JIT + b_3 BPR + b_4 ABC + b_5 ROA-1 + b_6 SIZE + ϵ					
	F		107.534		
	P-Value		0.0001		
	R^2		0.7725		
	Adjusted R^2		0.7653		
		<i>Expected</i>			
		<i>Sign</i>	<i>Coefficient</i>	<i>T-Stat</i>	<i>p-value</i>
Intercept			-2.029	-1.481	0.14
Initiative Effect					
	Total Quality Management (TQM)	0	13.971	2.904	0.002

Table 7: Regression Results

	Just-In-Time (JIT)	0	0.111	0.613	0.27
	Business Process Reengineering (BPR)	0	-0.106	-0.432	0.667
	Activity-Based Costing (ABC)	0	-0.167	-0.815	0.792
Control Variables					
	Prior Performance (ROA-1)	-	-0.886	-23.711	0.001
	Size (Ln Revenue)		0.0327	1.356	0.177

Where Δ ROA is the industry mean-adjusted change in ROA from the beginning to end of the three-year test period; use of TQM is a multi-item construct obtained from confirmatory factor analysis; JIT, BPR & ABC are 5-point Likert measures of initiative use; ROA-1 = the industry median-adjusted level of ROA at the beginning of the three-year test period; and SIZE is the natural log of total revenue at the beginning of the test period (t-1).

Bold = Significant at the $p=0.01$ level;

Tests on the coefficients are one-tailed for variables with an expected sign; two-tailed for remaining variables.

Also as predicted, Prior Performance (ROA-1) was negative, and was also highly significant ($p=0.001$). The strong negative significance of Prior Performance confirms the mean-reversion of earnings in the manufacturing sector. Size (Ln Revenue) had a positive sign but was not significant, and none of the controls for other initiatives were significant. Several sensitivity tests were performed including controlling for size with total assets rather than total revenue, and alternative modeling of prior level of performance and the other strategic initiative variables. Results were robust to these specifications.

In addition the model was tested using the change in ROA for years from t-1 to t-0, and t-1 to t+1. The TQM variable remained positively significant for both of these shorter time periods ($p = .0039$ and $p = .0034$, respectively). This provides further support for acceptance of the hypothesis, and is in keeping with the general TQM philosophy of continuous improvement.

Test of the Partitioned Sample

To explore further whether the results reported above remained consistent for both high- and low-performing firms, the sample was partitioned at the median level of performance for year t-1. The low-performing firms were those with negative industry median-adjusted ROA. The model is strongly significant ($F=76.624$, $p=0.0001$) and adjusted $R^2 = 0.8284$. TQM remains significantly positive ($p=0.032$). The pattern of the high-performing firms was similar (not reported). TQM remained significant ($p=0.012$) and was positively signed.

The evidence suggests that, *ceteris parabis*, firms can obtain financial benefit from the use of TQM regardless of prior performance.

Percentage Change in Operating Income (% Δ INC)

A limitation of the use of a ratio-based dependent variable such as ROA is that TQM, JIT, BPR and ABC often involve improving efficiencies or restructuring which reduce a firm's asset base. This could cause ROA of users to grow even though cash flows and firm value may actually decline over the same period. To

alleviate concerns over this possible bias, an alternate test was performed where the dependent variable was a percentage change in operating income before extraordinary items from year t-1 to year t+2 (% Δ INC), defined as (Income before extraordinary items for year t+2) less (Income before extraordinary items for year t-1) divided by (Income before extraordinary items for year t-1). Results (not presented) are robust to this alternative dependent variable definition.

SUMMARY AND DISCUSSION

This paper investigates whether TQM is associated with improvement in profitability in the manufacturing sector. Since it has been well established that a primary goal of an organization is to achieve and maintain profitability in order to maximize shareholder value, it is vital that firms have empirical evidence of the financial effectiveness of all strategic initiatives. This is particularly true in the case of TQM since there is considerable doubt as to the efficacy of TQM as an initiative that can assist in achieving improved profitability.

A major contribution of this study is its construction of a TQM metric, developed from theoretically and empirically established constructs defining TQM. A second contribution is that this metric is used to determine the extent of use within firms and then links extent of use with improvement in a composite archival measure of profitability, ROA. Additionally all dependent variable data was obtained from the *Compustat* database rather than relying on self-reported dependent variable data

The major finding from this research is that TQM, as defined through extensive review of prior literature and empirical research, is significantly associated with improvement in profitability as measured by the industry median-adjusted change in ROA and after control for the use of other initiatives, prior performance, and size. These results validate the assertion that TQM is significantly associated with profitability improvement.

Another important finding is the TQM appears to provide benefits to firms regardless of whether they have been poor performers or high performers.

All studies have limitations, and this research is no exception. First it is assumed that the respondents were well acquainted with the extent of use of TQM practices, were able to answer for the firm as a whole, and answered truthfully. Although the respondents were targeted top executives with knowledge of TQM and other strategic initiative use, it is possible that their responses did not represent the true extent of actual company-wide practices.

Second, the reliability of the survey instrument could be improved to assure better information in the future. There is no perfect survey instrument, but additional questions defining the constructs would possibly improve the reliability of the survey document.

Third, although this study has found an association between extent of use of TQM and profitability of the firm as a whole, it would be of great interest to address the impact of TQM on different elements of profitability such as sales, costs and assets, and to identify linkages between the various TQM elements.

Fourth, this study validates the major find of Kaynak (2003) that quality performance (TQM) is significantly positively related to improved financial performance.

Lastly, this research is limited to the manufacturing sector, while TQM claims to provide benefits for all organizations. Additional research into the association of TQM with improved profitability in service industries and not-for-profit organizations would be beneficial to those in the financial benefits of TQM use.

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STRATEGIC HUMAN RESOURCE MANAGEMENT: GOING GREEN

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ABSTRACT

Strategic management of green jobs is the organic phenomena of the future for the U.S. as well as international countries. Thus, a current strategic challenge for companies is the re-engineering and rebirth of green industries including automotive, construction, energy, environmental, and refuse/waste. To assist companies in the strategic management of going green, this article presents and discusses a strategic framework for the execution of green job rollouts including a focus on the project management life cycle phases and a consideration of the human resource functions that are needed to execute going green.

INTRODUCTION

Green jobs have grown faster than any other occupation from 2000 through 2006 and the continued fast growth of the jobs are projected through 2016 (Executive Office of the President Council of Economic Advisers, 2009). Thus, the labor market is embracing the change and renewable energy is considered one of three categories that will create many new job opportunities in various industries including service and manufacturing. The U.S. government has expressed interest in creating five million green jobs within the next ten years (California Green Solution, 2009).

Green jobs were virtually not identified prior to the 1960s; however, in the 2000s the green job market has become a significant employer in North America and Europe (Gallon, 2001). Green jobs “now rival those for the traditional sectors such as oil, chemicals and steel” (Gallon, 2001, 22). Some have suggested that “failing to consider the environmental impact of strategic decisions may affect the financial stability of the firm and the ability of that firm to compete relative to others in the industry” (Ilinitch & Schaltegger, 1995, 29).

Organizations are social systems that consist of interdependent, standardized processes and activities that are executed by human resources and bounded by space and time (Katz & Kahn, 2004). Projects are viewed within the context of organizations and are considered as temporary initiatives (Lundin & Soderholm, 1995) that transform inputs, processes, and outputs to achieve strategic goals and objectives (Swanson and Holton, 2001). For example, an acquisition of a new company, a new training curriculum, execution of a merger, and a system-wide organizational development intervention are all activities that are implemented through projects. Projects are complex undertakings which require examination, planning, and execution of unique parameters within a constrained time period.

Project management is the methodology that supports project execution and “is the application of knowledge, skills, tools, and techniques to project activities to meet project requirements” (PMI Global Standard, 2004, p. 8). The findings, of a survey of members within the Organization Development and

Change Division of the *Academy of Management*, reported that project management was one of the top seven foundational skills within organizational change initiatives. Project management provides a framework in which to define organizational requirements and teams work to develop activities including visioning, reflecting, monitoring, and evaluating. These activities are executed within a methodology that utilizes a systematic execution of tasks with the end goal of integration and participation from all work levels to successfully complete temporary initiatives (Henderson, 2005).

Research conducted by Schaffer and Thomas (1992) revealed that some initiatives fail due to a piecemeal approach to project implementation and that companies have started to sanction a holistic approach to project management to ensure successful implementations. More specifically, initiatives have been unsuccessful because (a) leaders failed to demonstrate the efficiency for the function or process (b) project management is not considered a field that promotes the execution of strategic plans, and (c) leaders failed to communicate project management's impacts to internal and external customers (Gilley, Egglund, & Gilley, 2002). Project management, within the context of strategic management, is seen as a framework in which organizational actions can be examined and executed. Additionally, project work has become an increasingly important consideration for organizational success.

The underlying goal of strategic human resource management is to support the execution of strategic organizational goals by effectively and efficiently using human resources (Bohlander & Snell, 2007). Mathis and Jackson (2008) suggest that strategic human resource management processes are instrumental in obtaining resources and include recruiting and placement, selection, training and development, total rewards, performance assessment, and employee relations. The human resource activities are used to obtain resources and their associated competencies and skills which are used as a starting point for long-term strategic and resource planning (Bohlander & Snell, 2007). Strategy execution includes the techniques, tasks, and assignments that are needed for a strategy execution (Thompson, Strickland, & Gamble, 2007). Thompson, Strickland, and Gamble (2007) posit that "adding to a company's talent base and building intellectual capital is more important to good strategy execution than additional investments in plants, equipment, and capital projects" (Thompson, Strickland, & Gamble, 2007, p. 361).

The purpose of this paper is to present and discuss the role of project management as a strategic management tool for the execution of green job initiatives. More specifically, three project phases, as defined by the *Project Management Body of Knowledge*, are used as a framework for the execution of green job initiatives. The project phases include initial, intermediate, and final. Project management and green jobs will be discussed in order to provide introductory information related to the detail discussion of green job project phase execution as defined by the *Going Green Strategic Execution Framework* in table 1.

PROJECT MANAGEMENT

"Project management is the planning, organizing, directing, and controlling of company resources for a relatively short-term objective that has been established to complete specific goals and objectives" (Kerzner, 2004, p. 4). The identified benefits of project management include: (a) "identification of time limits for scheduling", (b) "identification of a methodology for trade-off analysis", (c) "measurement of accomplishment against plans", (d) "early identification of problems so that corrective action may follow", and (e) "knowing when objectives cannot be met or will be exceeded" (Kerzner, 2004, pp. 3-4).

Project management originated as an organized work-related approach in the early 1900s and was introduced as a means to plan and manage projects (Packendorff, 1995). In the 1950s, project management was considered a theoretical field and emphasized planning techniques including Program Evaluation and Review Techniques and Critical Path Methods (Packendorff, 1995). The human resource aspect of project management is related to organizational resources and management issues and spans the 1960s through the 1980s (Packendorff, 1995; Kerner, 2001)

During the 1980s and 1990s, the project management literature focused more on the success and failures of project outcomes and the impacts to the overall organization. For example, numerous success factors were identified and related “to projects being on time, within budget, and of good quality” (Kendra & Taplin, 2004, p. 30). Project management historically has been used as the systematic approach to organize workplace processes and tasks and has been grounded in construction project methodology (Betts & Lansley, 1995), engineering, information systems, and government (Kerzner, 2001). However, currently there is a focus on using the methodology in other non-traditional industries and organizations including pharmaceutical, banking, consulting, hospitals, accounting, advertising, and legal (Kerzner, 2001).

Project phases are defined based on the completion of one or more project deliverables (PMI Global Standard, 2004) such as staffing plans, total reward plans, or performance review processes. “A project phase is generally concluded with a review of the work accomplished and the deliverables to determine acceptance, whether extra work is still required, or whether the phase should be considered closed” (PMI Global Standard, 2004, p. 22). Also, a project phase may be completed without the beginning of a new project phase such as the completion of the entire project and the close of the final phase.

Projects management focuses on the people interaction as a means to accomplish a goal by managing expectations, implementing actions, and engaging in learning activities. Holistic applications of project management activities have revealed that (a) human resources including employee training impacts operational results, (b) management commitment on training and customer focus influences quality initiatives, and (c) improvement of trends and variations in processes is likely to improve frequency in changes (Barad & Raz, 2000).

GREEN JOBS

The American Recovery and Investment Act (ARRA) is focused on investing in green job initiatives via loan guarantee programs that will improve the energy efficiency of homes and facilities as well continue to support other construction projects (Executive Office of the President Council of Economic Advisers, 2009). “Green jobs vary widely- from automakers making and maintaining hybrid and alternative energy cars, to green building and remodeling services and consultants, home energy auditors, environmental studies, teachers and authors, wind turbine engineers and maintenance crews, lawyers for biofuel, wind and solar companies and many more” (California Green Solutions, 2009, p. 1). The following non-traditional and traditional industries have been identified as offering the more green jobs: green buildings and green homes, tradesmen, training and certification, transportation, services, computers, hospitals, and natural resources and environmental management (Job-hunt.Org)

Green job initiatives will not only plan for new green job positions but also plan for extensions and modifications of traditional jobs as organizations work to conserve energy, reduce toxic waste, and cogenerate energy (California Green Solutions, 2009). For example, electrical mechanics will not only be able to fix car

engines but also be able to fix combustion engines and computer control operators will not only work on computers but will also cut steel for wind towers (Green Jobs Now: National Day of Action to Build the New Economy, 2008). The tasks for executing green job employment will not change drastically from executing other jobs as there is a need (1) to identify job specifications for staffing (2) to conduct recruiting and hiring activities, and (3) to execute onboarding programs. Some trends in green jobs that cross various industries include: (a) the restoration and reconfiguration of systems, projects, and services; (b) new projects and services in green companies and newly formed green divisions; (c) entrance of older workers by re-skilling; and (d) development of new curriculum in schools that focus on science, art, and mechanics (Job-hunt.Org).

More specifically, green jobs have been identified as impacting workers within the middle and lower level skill sets. Thus, curriculums have focused on the skill sets for sales engineers, technicians, installers, and operators. Inadequate skills and training have been identified, by the National Renewable Energy Lab, as the major drawbacks to the speedy execution of renewable energy in the United States (Green For All). As early as December 2007, money was allocated for workforce training programs with a focus on providing job opportunities for former military work, people with disabilities, youth, and poverty-stricken families (Green For All). The training included educating workers in the fields of solar installations and weatherization as well as transportation and construction (Job-hunt.org.). Mathematics and science have been identified as the skill sets needed to measure, evaluate, and effectively run sophisticated tools and systems (California Green Solutions, 2009).

GOING GREEN: STRATEGIC EXECUTION FRAMEWORK

Organizations use resource inputs as opportunities to make decisions about the green job initiatives including considerations related to the processes that must be examined and executed for green job execution and the outputs of the processes that support the ongoing human resource functions of workforce management. See table 1 for the going green model that will be discussed as a strategic framework for executing green job initiatives.

Table 1: Going Green Strategic Execution Model

INPUTS	PROCESSES	OUTPUTS
Organizational Characteristics	Project Management Phases	Human Resource Functions
Total Number of Employees	Initial Phase	Green Programs Staffing
Company in Business Prior To Becoming Green or Adding Green	Intermediate Phase	Total Rewards (Compensation & Benefits) Training
Type of Green Commerce	Final Phase	Staffing Training Total Rewards (Compensation & Benefits) Performance
Percentage of Total Operations Considered Green		

To support the framework in table 1, ten companies executing green job initiatives were interviewed and some of the data obtained from the interviews are included in the project management phases below. See table 2 also for a summary of interview data.

Table 2	
Interview Data Summary	Frequency
Total Number of Employees	
Less than 20 Employees	3
101-500 Employees	4
501 – 1,000 Employees	1
Greater than 5,000 Employees	2
Company in Business Prior to Becoming Green or Adding Green Commerce	
Yes	5
No	5
Type of Green Commerce	
Lighting/Manufacturing	1
Chemicals	1
Recycling	2
Consulting	1
Energy	1
Waste Recycling	1
Architecture	1
Wind Energy	1
Construction	1
Percentage of Total Operations Green	
10-25%	1
26-75%	2
76-100%	6
No Response	1
Recruiting Practices Different from Green Initiatives	
Yes	3

Interview Data Summary	Frequency
No	7
Pay Scale Different for Green Jobs In Your Industry	
Yes	4
No	6

PROJECT MANAGEMENT PHASES

“More and more companies are now regarding project management as being mandatory for the survival of the firm” (Kerzner, 2004, p. xxi). Project management is a methodology that can be used to strategically frame the activities of the team with the ultimate outcome of achieving quality based on improving processes to implement change. More specifically, project management methodology is a framework used to systematically and holistically transform the theoretical to the practical. The project management phases are discussed below with an emphasis on the tasks and activities associated with the execution of green job initiatives.

Initial Phase

The initial phase is focused on documenting the project benefits as well as deliverables associated with the temporary initiative (Kerzner, 2004). During the initial phase of the project, the “process necessary for documenting the business needs and the new product, service, or other result that is intended to satisfy those requirements” is completed (PMI Global Standard, 2004, p. 45). Thus, the initial phase is focusing on selecting green programs and identifying staffing needs.

Based on data obtained from interviews, one of the first considerations for green job execution is to identify what green programs your company will sanction. As a business evaluates the demand for green products or services, awareness is established that the climate may be conducive for the addition of a green product line or service that expands and revitalizes the core business. An established energy company with a focus on producing oil and gas, for example, may review adding a business unit to reduce carbon dioxide, develop biofuels, consult on energy reduction, and develop solar or wind energy operations. Leaders in the construction industry are adding or transitioning in green structural design for commercial and residential property utilizing energy efficient, renewable and recycled products. As a company recognizes the need and opportunity for green commerce either to stay competitive or establish the lead in obtaining market share, companies must decide the level of commitment to the prospective green program. Some organizations eliminate traditional businesses and focus human resources completely on the selected green commerce operations. Other companies integrate green commerce to further enhance their current business. “Many Fortune 500 companies have entire departments devoted to retooling their businesses to be more environmentally friendly” (Wooten, 2009, p. 22). The Green Jobs Act of 2007, authorizes \$125 million in

funding for creating training programs in green industries, along with additional legislation for sectors of green commerce, has further solidified the interest of business leaders (Green For All).

Since many of the green initiatives have not been a major part of the commerce landscape prior to the last few years, several issues concerning green job opportunities are evident. First, an experienced labor force may not be readily available in the area of green commerce as well as the education and training specific to many green collar jobs. The organizations surveyed indicated they either were currently attempting to fill green jobs from within first with a formal posting process or they would establish a formal posting process as the organizations grew. For the vast majority of companies establishing green commerce, staffing plans included positions with core skills and competencies outside of the green aspect of the position with a developmental plan to train on-the-job. The companies must identify the core competencies that best apply and establish not only a recruiting plan but also an appropriate interview and selection process (Entrepreneurs' Organization, 2009). A critical path for the success of the staffing plan is to identify all the prospective traditional careers from which successful candidates may be drawn. A land man in the oil and gas industry will lack the background and experience for wind energy land issues and resolutions, but may have enough transferable skills to successfully accomplish the job with on-the-job training and experience.

Whether the green collar jobs fall within an existing structure or are developing as the business solidifies, the scope of employment needs can change due to the scope of business, the environment, technology and many other factors. One Houston based company interviewed, dedicated to renewable services, had grown from 2 employees in 2006 to over 300 by year-end 2009 with revenues increasing from \$11 million dollars in 2008 to an estimated \$78 million in 2009. Another large recycling company interviewed started its first U.S. plant facilities with a workforce comprised generally of blue collar workers. With the progression of the business and access to enhanced technology, these same facilities are now staffed primarily with engineers and white collar workers. Most of the organizations surveyed and interviewed did not put as much emphasis on hiring an employee completely skilled in the arena of the green sector, but indicated prospective employees were evaluated on enthusiasm for green purposes.

Intermediate Phase

During the intermediate phase, the project plan is developed and "this is the process necessary for defining, preparing, integrating and coordinating all subsidiary plans into a project management plan" (PMI Global Standard, 2004, p. 48). The project plan identifies who will perform activities, how those activities will be conducted and when (Martin & Tate, 2001). The plan includes a work breakdown structure that partitions the project deliverables and tasks into smaller, incremental components. The intermediate phase includes the execution of the project plan such that the tasks are completed and the project progresses with the end goal of the execution of green jobs. The intermediate phase includes "monitoring the ongoing project activities against the project management plan and the project performance baseline" (PMI Global Standard, 2004, 59). The intermediate phase is focusing on total rewards including compensation, employee benefits and training.

Some of the tasks included in the project plan for the execution of green jobs are focused on the identification and execution of total rewards and training programs. Total reward programs, including compensation and employee benefits, are typically reviewed and established during the intermediate phase. Some of the organizations interviewed indicated that the standard benefits (medical, 401(k), vacation) were

sufficient while others indicated that employees valued time off for participating in community green endeavors and considered it a company benefit to encourage and offer paid time off to participate. Other benefits included healthy snacks provided by the company in break rooms and green investment options included in the 401(k) plan. Another organization interviewed provided the sales staff with fuel efficient vehicles for transportation. .

Green job execution also included identifying compensation for green jobs. This task may include obtaining data from research companies related to job titles, job descriptions, and median annual salaries. For example, green job opportunities include: (a) hydrologists who earn median annual salaries of \$64,604, (b) environmental engineers who earn median annual salaries of \$63,673, (c) pollution control technicians who earn median annual salaries of \$47,403, (d) biologists who earn median annual salaries of \$53,665, and (e) environmental attorneys who earn median annual salaries of \$90,146. (Tampabay.com, 2009). Median annual salaries differ based on geographic location, job title, industry, skills, and credentials.

The scope of training may be evaluated by the philosophy of the organization and perceived and validated based on need. Training for green jobs may include both on-the-job and formalized programs. For example, a wind energy generation company that was interviewed wrote curriculum and offered seminars to all employees. The company considered the staff completely green, from the engineering to the accounts payable staff, and therefore emphasized the education of wind turbines and operations as important throughout the organization. Within the aforementioned organization, positions connected to day-to-day green operations conducted position specific on-the-job green training in order to effectively meet company goals. Additionally, based on the interviews, organizations in the construction and recycling aspects of the green industry often sponsored existing employees for certifications including the LEED certification and other types of certification.

As green organizations provide opportunities for employees to acquire knowledge, skills and certifications in green commerce, the organization gains the qualifications necessary to successfully bid for contracts with federal, state and local entities and aggressively compete in the private sector. A company interviewed, with over 5,000 employees, integrated a unit of employees dedicated to efficiency within one of the traditional operations groups. Although none of the employees were trained specifically in green commerce, improvements for the traditional business brought huge rewards for the organization by reducing costs and increasing on-time services to clients.

The project team needs to incorporate project status reports and meetings as well as analyze actual against planned performance to help ensure the progression of the project to completion. Therefore, project managers are ensuring the project team is checking and monitoring progress, comparing progress to the project plan, taking corrective action to ensure tasks are aligned with the plan, and auditing performance (Lewis, 2003, 12). Thus, the activities include identifying and developing total reward and training programs.

Final Phase

During the final phase, the teams are verifying work completions, administratively closing the paperwork, and handing over the project deliverables. More specifically, during the final phase, the project is approved by the requesting department and the deliverables and activities are handed over to the requesting department for ongoing maintenance (Kerzner, 2004). A final status report is completed and includes a report noting that green job programs have been identified and are ready to begin operations, including employees

to execute the programs that have been rewarded, and employees that have skills and training to provide efficient and effective performance.

A final close-out report is also prepared in the final phase and includes recommendations to the organization for process improvements for future project considerations (Martin & Tate, 1998). For example, one of the major strategic issues identified during the interviews, impacting green commerce on a forward basis is the commitment placed on the industry by the federal, state, and local governments as well as the American population. Although large segments of green industries do not currently receive funding or tax credits from the government, some of the industries receive funding or tax credits; i.e., the wind and solar industries receive incentives and are at least partially subject to a three year window. As green commerce continues to evolve, a change in policy, legislation, or tax law to business or individual consumers could make a difference in demand for services and the ability to be competitive with traditional businesses. "A recent report released by the office of Sen. Kit Bond of Missouri states that green jobs, primarily in energy-generation, require high taxpayer subsidies to sustain them. The report argues that the net gain in jobs from expansion in green industries is overestimated, since many existing jobs are eliminated" (Wooten, 2009, 23).

Another future consideration beyond the final project phase is adequate and appropriate staffing including training (California Green Solutions, 2009). Predicting future staffing needs and developing a plan for the future as the industry and particular businesses evolve is an ongoing challenge. Understanding and addressing staffing needs for particular certifications and licenses to meet legal or business requirements is necessary. Establishing a plan, whether with educational institutions or other sources, to develop a feeder group of entry level candidates perpetuates the building of an experienced and qualified workforce.

Performance evaluations and compensation packages are among additional future project considerations. Performance assessment criteria need to be identified and performance evaluations need to be conducted to determine whether employees in certain positions are aligning performance with the needs of the organizations. Additionally, six of the ten companies interviewed indicated there were pay differences for green jobs versus traditional positions. Since green commerce in many industries is relatively new, this could increase within the next few years, especially within key positions. Green jobs provide an opportunity within industries for employees to differentiate themselves. One of the organizations interviewed indicated that for some specialized job positions, once an employee has the experience, the employee can command approximately 15% higher compensation in the industry.

CONCLUSION

The temporary project initiative of executing green jobs transforms inputs, processes, and outputs to achieve strategic goals and objectives (Swanson and Holton, 2001). Green job projects are complex undertakings which require examination, planning, and execution of unique parameters within a constrained time period. The parameters used for measuring the success of a project includes ensuring the project is within the time frame specified, within cost, and accepted by the customer denoting the desired outcomes (Kerzner, 2004). "Central to the problems of improving quality and productivity is the difficulty in translating an organization's strategic objectives into operational results. Consistent improvement is achieved by combining innovative strategic thinking with effective operational execution" (Griswold & Prenovitz, 1993, p. 5). Project management provides the strategic framework for the execution of green job rollouts including ongoing coordination of strategic execution and project implementation.

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BOARD POWER, CEO APPOINTMENTS AND CEO DUALITY

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ABSTRACT

Decades of research on corporate boards of directors resulting in diverse and often inconsistent findings have not dampened scholarly interest in the topic. Instead, researchers are attempting to more effectively model the board-firm relationship. One such modeling approach considers the power of the board in relation to top management. Drawing on upper echelons thinking (Hambrick & Mason, 1984) and the concept of managerial power (Finkelstein, 1992), this conceptual study develops the notion of board power in relation to CEO duality. Based on a framework composed of structural, ownership, expertise, and prestige power of the board, the study develops several propositions predicting the impact of board characteristics on a key aspect of managerial power – the appointment of the CEO to the position of board chair. This work contributes to scholarly understanding of the role of agency theory in explaining corporate governance phenomena by extending upper echelons thinking to the study of boards.

INTRODUCTION

Corporate boards of directors have been the focus of several decades of research prompting calls by organizational researchers (e.g., Dalton, Daily, Ellstrand, & Johnson, 1998; Finkelstein & Hambrick, 1996) for multitheoretic approaches and development of constructs that more effectively model this relationship. Among constructs recently capturing the attention of governance researchers is that of the power of the board of directors. A board's ability, or capacity, to monitor top management is dependent on its power to effect and enforce its will. Hence, examination of the nature of board power and its antecedents and outcomes is essential to our understanding of the governance function of boards, particularly with respect to firm strategic outcomes (Finkelstein and Hambrick, 1996; Hillman and Dalziel, 2003).

A strategic outcome of interest to governance researchers is CEO duality, in which the CEO serves also as the board chair. In spite of both theoretical and practical admonitions to separate the CEO and board chair positions, roughly 80% of U.S. firms continue the practice of appointing one person to both positions (Faleye, 2007; Worrell, Nemec, & Davidson, 1997). Neither are organizational researchers in solid agreement that separation of the two roles is always desirable adopting instead a contingency perspective that under certain conditions CEO duality may be a preferred arrangement and under other conditions separation may be more effective (Faleye, 2007; Finkelstein & D'Aveni, 1994). For example, Finkelstein and D'Aveni (1994) reported that powerful boards were less likely to favor duality when performance was poor but that vigilant boards were associated with CEO duality when performance was high. Hence, the question of CEO duality is practically and theoretically important, and examining its antecedents and outcomes may lead to greater practical and scholarly understanding of the nature of the board's monitoring capacity and the impact of board monitoring on firm outcomes. Furthermore, understanding antecedents of the appointment of the CEO as board chair sheds light on the nature of board power.

This study examines the impact of board power on the likelihood that a newly appointed CEO is also eventually appointed chair. Specifically, the study conceptualizes board characteristics in terms of board power. Using a framework of managerial power composed of structural, ownership, expertise, and prestige power (Finkelstein, 1992) and extending upper echelons thinking to the study of boards of directors, board power is framed within the context of firm critical contingencies to predict dual leadership by a newly appointed CEO.

CEO DUALITY AND BOARD POWER

CEO Duality

Because of the potential potency of CEO duality as a corporate control mechanism, its consequences have been the focus of considerable empirical investigation (See Daily and Dalton (1997) for a narrative analysis of empirical examination of the relationship between CEO duality and firm financial performance.) Compared to firms with unitary structures (CEO duality), firms with independent governance structures (separation of the two roles) showed consistently better accounting performance (Rechner & Dalton, 1991). Banks with dual leadership had lower costs and higher returns on assets than those with unitary leadership structures (Pi & Timme, 1993). Researchers have also considered the impact of duality on other strategic outcomes. Goyal and Park (2002) found that CEO turnover following poor firm performance was less sensitive in firms using a unitary structure (duality). Examining the impact of duality of earnings restatements, Davidson and colleagues (Davidson, Jiraporn, Kim, & Nemecek, 2004) reported that income-increasing earnings management was more prevalent in firms following duality-creating successions than in non-duality creating successions. These studies suggest that the concerns of corporate governance activists and theorists urging separation of the two roles are well founded.

Not all empirical studies support this notion, however, and several research studies report no difference in performance outcomes between groups of firms whose CEOs also share the title of board chair and those in which the roles are split. Firms that changed corporate leadership structure showed no differences in either financial market based measures or accounting based measures of performance (Baliga, Moyer, & Rao, 1996). In an examination of firms in the U.K., Dahya (2004) found no performance improvement associated with separation of the two leadership positions either in absolute terms or in comparison to a number of peer group benchmarks. Finally, a meta-analytic review of 31 studies examining the relationship between duality and firm performance, led researchers to conclude that duality showed no effect on firm financial performance (Dalton, Daily, Ellstrand, & Johnson, 1998).

These empirical studies have been grounded in the assumption, based largely in agency theory, that the roles should be split in order to preserve the independence and monitoring capabilities of the board. However, other organizational researchers suggest a different tack proposing instead that one form of corporate leadership may not be the best in all circumstances. Indeed, a narrative analysis of two decades of empirical examination suggests that the focus on duality versus separation is misdirected (Daily & Dalton, 1997). Finkelstein and D'Aveni (1994) note that the choice is a trade-off between the need for boards to avoid CEO entrenchment on the one hand and to promote unity of command on the other. Brickley and colleagues imply that there are costs and benefits associated with both forms of leadership structure (Brickley, Coles, & Jarrell, 1997; Faleye, 2007). Such thinking has led some corporate executives while generally

supporting the notion of CEO duality to conclude that each firm should determine which leadership structure is best based on its present and expected future circumstances (Business Roundtable, 2002). Indeed, recent empirical study supports the notion that certain conditions may favor one or the other form of structure. In an examination of the economic determinants of CEO duality, Faleye (2007) reported that organizational complexity, CEO reputation, and CEO equity increase the probability of CEO duality and the appropriate conjunction of these determinants with CEO duality may enhance firm financial performance. These more recent studies and the rather mixed findings of others suggest, as proposed by Finkelstein and D'Aveni (1994) that a number of contingencies influence what corporate leadership structure best serves a firm's stakeholders. Among these the board of directors may be a key factor in determining the most suitable arrangement.

Board Power

Power is the capacity of an individual to “overcome resistance in achieving a desired outcome or aim” (Lynall, Golden, & Hillman, 2003; Pfeffer, 1981). In an organizational context, the capacity to control the premises and choices of decisions as well their consequences (Roy, 1997) is the basis of the power to influence others and tends to be concentrated among strategic leaders. Organizational leadership is focused on two key strategic decision making groups – the top management team and the board of directors. Compared to top managers, boards may have limited discretion. However, in certain situations boards have exclusive decision making authority and in these cases exhibit the type of discretion normally associated with a decision-making group (Finkelstein & Hambrick, 1996). Hence, as a strategic decision making group, the board possesses a certain degree of organizational power.

Consideration of board power suggests several sources, or dimensions (Finkelstein, 1992). Board structure has been conceptualized in terms of the separation of the chair and CEO roles (Finkelstein & Hambrick, 1996). Separating the two roles places the board in a superordinate relationship to the CEO. However, the source of this power lies not strictly in the separation itself but in the authority of the board to create the separation, and this authority stems from the fiduciary relationship of the board to the shareholders (Monks & Minow, 2001). Boards derive their structural power not strictly from their relative position in the organizational hierarchy but in their legal authority to oversee the activities of the CEO. In spite of the preeminent focus of structural power in the CEO, because the CEO role derives authority from its relationship with the board, the board does possess a certain degree of structural power by virtue of this relationship. Indeed, the board can bestow the chair role on the CEO as well as take it away as Disney's board did from Eisner. Thus, structural power of the board stems not strictly from the separation of the chair and CEO roles but from the board's legitimate authority to separate or combine the two positions.

In addition to structural power, boards possess a certain amount of ownership power. Finkelstein (1992) defines managerial ownership power as stemming from 1) capacity of managers to act as agents on behalf of the firm's principals, 2) the level of share ownership held by managers, and 3) managers' interpersonal links to the firm's founders. Ownership power of the board likely stems from similar sources. First, the board is legally empowered to act on behalf of the owners. Second, directors often have some ownership interest in the focal firm. Indeed, corporate governance reform efforts have focused specifically on the importance of directors holding an equity position in the firm, and the issue of director ownership has been the focus of considerable empirical scrutiny. In addition to equity ownership, board ownership power may also stem from directors' personal links to institutional investors and blockholders. Third, directors'

personal links to the firm's founders provide some base of ownership power. For example, Susan Buffett's long-held position before her death on the board of Berkshire Hathaway was fairly unassailable despite the criticism the firm's corporate governance invoked from corporate governance activists (Langley, 2003).

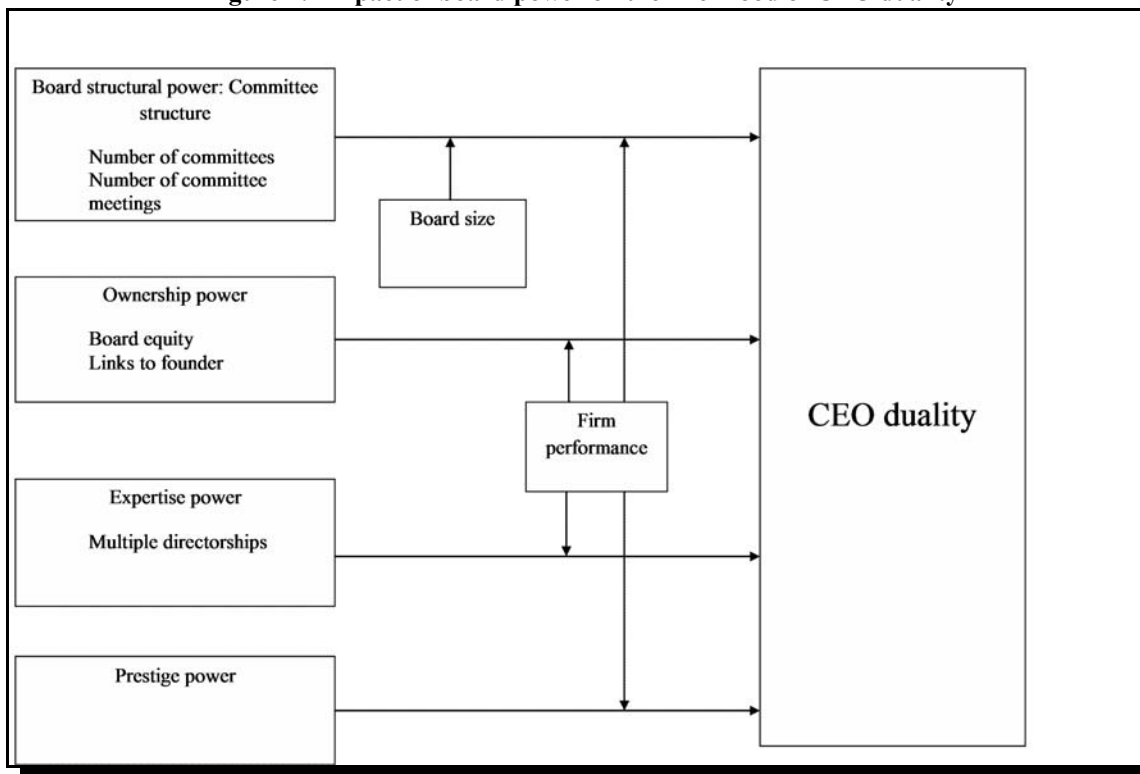
In addition to structural and ownership power, board power stems from directors' expertise as directors and as managers. Such expertise may be evident in directors' capacity to deal with environmental contingencies impacting the focal firm (Finkelstein, 1992; Finkelstein & Hambrick, 1996). Such expertise may be based in a director's interpersonal relationships with elements in the task environment as well as in the director's breadth of experience either as a board member (at the focal firm or at other organizations) or as a manager. Multiple directorships have been the target of criticism by corporate reform advocates, many of whom propose limits on the number of directorships one director can hold. In spite of the intense criticism of the practice, the scant empirical evidence on the outcomes of multiple directorships suggests that focal firm performance does not suffer when directors serve on boards of other firms (Ferris, Jagannathan, & Pritchard, 2003). In addition to such general management or governance experience, expertise power may also be based on the relevance of a director's expertise with respect to a particular strategic choice (Finkelstein, 1992). Strategic relevance means that the impact of a director's expertise may lie in the director's capacity to reduce uncertainty stemming from the firm's dependence on task environments most problematic to the organization (Pfeffer, 1972, 1973, 1988; Pfeffer & Salancik, 1978). Citing Carpenter and Westphal (2001), Hillman and Dalziel (2003) noted that boards with experience in a particular situation facing the firm showed effective monitoring. The expertise power of the board may be based in directors' general experience as top managers or directors as well as prior experience gained through familiarity with events similar to those that a focal firm's managers face at a specific moment in time.

Finally, board prestige power may lie in the reputation of directors within the institutional environment (Scott & Meyer, 1983), among the managerial elite (Useem, 1979), from their formal authority within a social organization or institution (Giddens, 1972), or from ties to other organizations through interlocking directorates (Mizruchi, 1988; Mizruchi & Stearns, 1988; 1994). Prestige power differs from expertise power in that the latter is based on experience whereas the former is based on perceived position within social networks. Prestige power, while a general source of power for most strategic leaders, may have unique application within the context of boards of directors. Although a leader's prestige is likely a premium with any appointment to a strategic leadership position, prestige is more heavily weighted in board appointments than in top management appointments. Indeed, a central tenet in the resource dependence perspective (Pfeffer, 1972, 1972, 1973, 1981; Pfeffer & Salancik, 1978) is that prestigious individuals are recruited as directors to enhance the legitimacy of the focal firm. Hence, the prestige power of the board and its individual directors is a singularly apt application of Finkelstein's concept of power to the domain of boards due to the importance of external interconnections directors often bring. Such formal and informal connections with and authority within organizations in the focal firm's institutional environment may be sources of external information that, when included as inputs to the focal firm's information processing system, lead to a reduction of uncertainty for the focal firm.

In sum, boards operate from a basis of organizational power that, while similar to managerial power, differs in the sources of its power and in the ways that power might be used to influence firm outcomes. Extension of upper echelons thinking (Hambrick & Mason, 1984) and the notion of dimensions of managerial power (Finkelstein, 1992) may inform scholarly understanding of corporate governance in instances where boards clearly have discretion in a specific realm of decision making. Furthermore, conceptualizing the board

in terms of board power may provide value in modeling the relationship between board characteristics and a focal firm's strategic outcomes. Following are propositions articulating such a model, and these are graphically represented in Figure 1.

Figure 1: Impact of board power on the likelihood of CEO duality



BOARD POWER AND CEO DUALITY

The board's impact on strategic outcomes stems primarily from its capacity as the firm's secondary control mechanism (Johnson, Hoskisson, & Hitt, 1993; Walsh & Kosnik, 1993). Although the board is not directly responsible for the firm's strategy, it impacts strategy through its capacity to ratify and monitor management's strategic plans (Fama & Jensen, 1983). Hence, although board power is not directly manifest in the strategic direction of the firm, it becomes apparent through critical choices the board is able to make in the strategic management process. These include appointing the CEO (and choosing to retain through contract extension), setting CEO compensation, and choosing the board chair.

Well-connected boards are likely to have sound information systems based on external awareness rooted in knowledge of the firm's task environment and of general business conditions (Useem, 1984) and on internal awareness based on familiarity with the firm's interface with its task environment, with the key organizational boundary spanners with respect to that interface, and with key organizational decision makers (e.g., internal auditors). In light of the recent regulatory and institutional emphasis on the audit committee's

interaction with both the external and internal audit functions, powerful boards are more likely to have enhanced internal information by virtue of that information conduit interconnecting it with other financial and operational information inside the firm.

Increasing the quality and quantity of information that directors have about the firm's internal conditions leads to less reliance on the information that would normally be provided by inside directors (Baysinger & Hoskisson, 1990; Fama & Jensen, 1983). The resulting reduction in reliance on insiders produces more independence on the part of the board, a characteristic generally regarded by corporate governance experts as leading to enhanced monitoring mechanisms (e.g., separation of the chair and CEO roles, board meetings without the presence of insiders, appointment of a lead outside director). The greater the power of the board, the greater this independence thereby increasing the likelihood of effective monitoring mechanisms such as dual leadership.

Nearly 80% of large U.S. firms are characterized by CEO duality (Faleye, 2007; Worrell, Nemecek, & Davidson, 1997) suggesting that although a new CEO does not receive the chair position immediately upon appointment, the CEO is likely eventually to hold both positions. In cases where the power of the board leads to dual leadership (separation of the chair and CEO roles), the probability is high that the firm will eventually have unitary leadership. However, the likelihood of dual appointment as CEO and board chair position may be impacted by power of the board of directors.

The board's position in the organizational hierarchy giving it the authority to oversee the CEO does not in itself vary, i.e., by its very nature, the position of the board is rather static. However, certain aspects of board structure may make the power of its organizational position relatively dynamic, and CEO duality may be a manifestation of board power that is rooted in components of board structure. Organizational theory posits that structure defines the allocation of tasks, specifies reporting relationships, and defines formal coordination mechanisms and interaction patterns. These concepts may have some application to the organization of the board of directors. As a strategic decision making group, the board is often seen as rather amorphous in terms of structure. Except for the role of chair, there is no vertical differentiation within the board. The division of the work of the board into committees represents a certain amount of horizontal differentiation within the board, although this has received relatively little scholarly investigation. If organization design is considered to facilitate efficiency and effectiveness in organizations, examination of board organization may yield fruitful insights about board functions and outcomes.

The work of the board increasingly relies on committees (Lorsch & MacIver, 1989) as a means to facilitate board decision-making processes (Conyon & Peck, 1998; Singh & Harianto, 1989). The past three decades have seen an increasing incidence of committees (Vance, 1983). Although researchers have increasingly acknowledged the importance of board committees, in comparison to the research on the board at large, board structure in the form of board committees has received relatively little empirical scrutiny.

The rationale for the study of board committees is three-fold. First, committees may perform important monitoring functions. The specialization of committees means they deal with particular domains and develop some specialized expertise (Ellstrand, Daily, Johnson, & Dalton, 1999; Vafeas, 1999) that may enhance the capability of the board at large to assess management actions in pursuit of firm strategy and to advise changes when necessary. A second reason for studying board committees is that the existence of and work performed by committees may help the board address the constraints of time and complexity brought about by infrequent and relatively short meetings (Lorsch & MacIver, 1989). A third reason for the study of

committees is methodological. Committees have distributions of attributes that differ significantly from those of the board at large (Kesner, 1988; Klein, 1998) making committees an apt focus of empirical investigation.

Research on committees may be classified into two major categories: studies of composition and studies of committees as antecedents of corporate outcomes. Composition studies tend to be somewhat descriptive in nature examining such attributes as committee members' business background and gender and committees' proportion of outside directors (Bilimoria & Piderit, 1994; Kesner, 1988; Klein, 1998). Results of these studies suggest that key committee characteristics may be qualitatively and quantitatively different in strategically important ways from those of the board-at-large.

The second group of empirical studies focuses on committees as antecedents of corporate outcomes and tends to be more explanatory in nature. Examination of the audit and compensation committees on corporate outcomes includes the impact of committee characteristics on bankruptcy outcomes (Daily, 1996), on CEO compensation (O'Reilly, Main, & Crystal, 1988), and adoption of takeover defenses (Singh & Harianto, 1989). Results suggest that board structure may be associated with corporate outcomes. Thus, the characteristics of committees, as a form of board structure, may be a salient focus of research.

Some boards have many committees in addition to those mandated legally or by the firm's listing stock exchange (i.e., nominating, compensation, and audit). Such boards should have relatively decentralized information systems reducing the power of the entire board. All things being equal, the proliferation of board committees may excessively divide the work of the board reducing the cohesiveness of board interaction. In contrast, allocation of board work into fewer committees may effectively focus directors' efforts on specific issues and allow more efficient interaction among committee chairs and individual committee members. Increased efficiency and effectiveness of the board through efficient committee structure may enhance the capacity of the board to monitor. Hence,

P1: The larger the number of standing committees of the board, the more likely that CEO succession will include also succession to the chair position.

Eisenhardt (1989) suggests that the number of meetings enhances the information processing of the board. Holding more frequent meetings increases the amount of director interaction with each other and with firm managers enhancing the quality and quantity of the board's information reducing their reliance on insiders for information and increasing their independence. Freedom from dependence tends to make one more powerful in deciding one's fate and in making decisions within one's decision making purview. The increased power and independence from enhanced information makes the board less likely to turn over the reins of both the firm and board to a new CEO.

P2: The greater the number of meetings, the less likely that CEO succession will be accompanied by succession to the chair position.

A key element of board structure addressed by organizational researchers is board size (Finkelstein & Hambrick, 1996). Board size has demonstrated some effects on firm financial performance (Dalton et al., 1998; Hermalin & Weisbach, 2001). A meta-analysis of the board size-firm performance relationship indicated a systematic, non-zero, positive relationship between the size of the board and firm performance (Dalton et al., 1998). A narrative review of the economic literature (Hermalin & Weisbach, 2001) suggests

a negative relationship between board size and performance. A larger board may be too unwieldy to adequately control and serve the focal firm's management leading to the possibility of lower performance outcomes. Alternatively, a larger board may have a broader, richer pool of experience from which to draw. Hence, there is no clear theoretical or empirical consensus on the board size-firm performance relationship (Dalton et al., 1999).

The larger the board, the greater its capacity for a larger number of committees, whereas a small sized board's capacity for division into committees is quickly exhausted. Therefore, the larger the board, the less pronounced are the effects of the number of committees and of committee meetings.

- P1a: The relationship between the number of committees and the likelihood of CEO duality at the time of CEO succession will be less positive as board size increases.*
- P2a: The relationship between the number of meetings and the likelihood of CEO duality at the time of CEO succession will be less negative as board size increases.*

Ownership power of the board stems from directors' equity stakes in the firm and their personal links to the firm's founders (Finkelstein, 1992). Following an agency perspective, directors have long been encouraged (some activists would require them) to have some ownership stake in the firm. This is thought to align directors' interests with those of the stockholders thereby enhancing the board's level of fiduciary care. Such a practice is part of a larger effort to align the interests of all strategic leaders - top managers and directors alike - with the interests of shareholders. Recent research on the impact of managerial equity in the focal firm demonstrated that this may be effective only up to a certain level of ownership (Wright, Kroll, Lado, & VanNess, 2002). While the literature strongly supports the idea that ownership incentives align managerial and shareholder interests, Wright and colleagues showed that the relationship is not monotonic but instead inflects downward at a point when ownership is disproportionately concentrated in the focal firm leading managers to reduce the risk associated with their personal wealth portfolios through risk-reducing corporate strategies.

Research regarding a similar effect with regard to outsider equity has not been done, but it is reasonable to suggest a similar line of argument. Board power likely increases with increased ownership stakes tending to align board decisions with those of shareholders. As the ownership stakes of the board increase, directors become increasingly risk averse and more closely aligned with managerial interests. At relatively low levels of equity, directors will have the incentive to enhance governance through separation of the CEO and chair positions. However, as their equity stakes increase, their interests begin to diverge from those of shareholders, leading to risk averse decisions favoring entrenchment.

- P3: The greater the ownership power of the board, the less likely that CEO succession will be accompanied by succession to the chair position.*
- P3a: As ownership power continues to increase, CEO duality upon appointment becomes more likely.*

Ownership power may also be manifest through the presence on the board of the firm's founder(s) or of members of the founder's family. The objectives and risk of founders are not entirely homogeneous

but vary somewhat. Early stage founders may be highly entrepreneurial, seeking high risk ventures and their associated high returns. This is often true of first generation founders. First generation family members may have similar perspectives on risk seeking. However, succeeding generations of founding families often are not actively involved in the business seeking instead the secure income that comes from a sizable equity stake or seeking to sell the business turning their stakes into cash or other forms of investment. Recent maneuvering among the descendants of the Dow Jones fortune in the sale of the Wall Street Journal and associated properties to Rupert Murdoch brought to light many of the potential conflicts of succeeding generations of founding families. On the other hand, William Ford has been actively involved in his great-grandfather's business seeking to maintain and grow it.

Because of the variety of objectives and risk tolerances held by family members of a firm's founder, the impact of personal links of directors with family members is likely not a simple effect. Perhaps directors linked to first generation founders are more likely to be relatively risk-tolerant, while those linked to second and succeeding generation family members will be more risk-averse.

In addition to these complexities, there is also the issue that first generation founders likely retain a position on the board and most likely the position of chair in the event they relinquish the CEO position. Therefore, it is highly unlikely that a succeeding CEO would assume the chair role in the foreseeable future. Furthermore, with succeeding generations, it is likely that at least one member will sit on the board. This suggests the ownership power of the board is greater with the presence on the board of the founder or members of the founder's family. Stated more formally,

P4: The presence on the board of the firm's founder or of members of the founder's family will reduce the likelihood of CEO duality upon appointment of a new CEO.

The number of other multiple directorships represented on the board may enhance the board's expertise power. Although theory and corporate governance critics suggest that multiple directorships represented on boards lead to complacent, entrenched boards, resulting in reduced board capacity to monitor, Ferris and colleagues (Ferris, Jagannathan, & Pritchard, 2003) found that multiple directorships were not significantly associated with negative performance. Boards with directors serving on multiple boards were not found to be "too busy to mind their own business" (Ferris et al., 2003). These findings are somewhat at odds with the prevailing wisdom that multiple directorships reduce board effectiveness and monitoring capacity. Rather they suggest that multiple directorships enhance board expertise.

Greater expertise from multiple directorships may be attributed to a number of phenomena associated with interlocking directorates. For example, interlocking directorates may result in greater quantity and quality of information. Such information is not necessarily about specific opportunities or threats but rather about general business conditions (Haunschild, 1993; Useem, 1984). In addition to the quality and quantity available to the focal board through board interlocks, multiple directorships may enhance the board's capacity to manage the information links between the firm and other organizations considered vital to managing the firm's external contingencies (Pfeffer & Salancik, 1978).

The enhancement of the quantity and quality of information available to the focal firm and the ability to manage that information enhances the strategic relevance of the board's expertise within the context of the focal firm's strategy. As an information processing system, the board's information input and its capacity to manage and process that input enhances the board's capacity to interpret that information in ways that are

meaningful to specific strategic alternatives available to the firm's management. The board's broad exposure to a variety of external conditions and the board's experience at addressing these conditions (and seeing them addressed by other firms' managers on whose boards they serve), supports the learning necessary to convert these general observations into choice-specific information inputs to a decision or strategic process at hand thereby making their expertise relevant to a specific strategic context. This seems the core of the idea of strategic relevance - the capacity to infer information about a specific situation from a variety of generalized experiences and bring this information to bear on specific decision. Hence, the board's expertise is enhanced by strategic relevance of directors' individual experiences with the general context of business conditions and through the variety of their exposure and involvement in concurrent conditions. Thus, a board characterized by a high number of multiple directorships will have more expertise.

One impact of greater expertise is less reliance on the inside information of the CEO due to the board's superior capacity for interpreting and applying business information. While the board still relies on the CEO to formulate and implement strategy, the board will be in a better position to manage its own affairs by separating the position of CEO and board chair. Hence, the number of multiple directorships held by focal firm directors will be associated with a higher probability of separation of the chair and CEO roles. Hence,

P5: Multiple directorships represented on the board will reduce the likelihood of CEO duality at the focal firm.

The prestige power of the board is also enhanced through multiple directorships. Multiple directorships are often considered a manifestation of an individual's social embeddedness in the business elite (Mizruchi, 1988; Mizruchi & Stearns, 1988; 1994; Useem, 1979; Granovetter, 1985). Greater embeddedness will also result in a lower incidence of CEO duality immediately upon appointment as new CEO. Hence,

P6: The greater the prestige of the board the lower the likelihood of CEO duality at the focal firm.

Prior research has demonstrated that focal firm performance impacts the incidence of CEO duality. As noted previously, when firm performance is low powerful boards may be less likely to favor duality while vigilant boards may prefer the arrangement when performance is high (Finkelstein & D'Aveni, 1994). This finding suggests the following:

P7: When focal firm performance is high, the relationship between board power and the likelihood of CEO duality will be less negative.

DISCUSSION

Understanding of the role of the board of directors in corporate governance requires a clear understanding of the basis of board power (Finkelstein & Hambrick, 1996). Board monitoring of the strategic direction provided by top management is an organizational control activity and implies consequences if the board deems managerial strategic behaviors inappropriate for the well being of the firm, its shareholders, and

other stakeholders. This capacity of the board (Hillman & Dalziel, 2003) to implement consequences stemming from its monitoring role implies the necessity of some base of power from which to operate.

One reflection of the board's power is the separation of the chair and CEO roles. While this has often been characterized as a dimension of board power, the perspective presented in this study proposes that dual leadership (separation of the two roles) and unitary leadership (CEO duality) are outcomes of the intrinsic authority of the board to confer or withhold the title of chair. In spite of the characteristics of a firm's CEO, this authority always lies legally within the purview of the board. Conceived this way, CEO duality is a consequence of board power.

This conceptual framework extends upper echelons thinking to the domain of boards of directors and rests on the notion that boards function as an upper echelons decision group. Certainly boards operate with respect to the organization at a level similar to that of top managers. In addition, as key decision makers regarding organizational direction, boards of directors are a unique decision group distinct from other types of decision groups in the types of decisions made, the group's characteristics, and the structural relationship of the group to the organization as a whole. Indeed, boards impact organizational direction in ways unlike that of any other organizational decision making group. For example, boards are uniquely empowered to select and monitor the CEO and to generally act in a fiduciary capacity on behalf of shareholders. In these respects, the board of directors may be considered to be a UE group, and, therefore, subject to investigation using UE thinking.

At the same time, upper echelons perspectives, developed largely to help explain top management team (TMT) phenomena, may not be a wholly appropriate theoretical lens through which to view boards of directors. Boards differ substantively from top management teams in how they operate and in the domains of their activities. While TMTs function on a daily basis, boards operate on a relatively discontinuous basis, potentially reducing the impact of board characteristics (Johnson, Hoskisson, & Hitt, 1993). In addition, boards serve as a governance mechanism not as a management mechanism, and distinctions between these two strategic control functions may limit the application of upper echelons thinking to the domain of boards. For example, Fama and Jensen (1983) hold that boards and management specialize in different areas of strategic direction with management responsible for formulation and implementation of strategy and boards responsible for ratifying managerial decisions and monitoring managerial actions. Boards' impact on strategic direction is nearly always indirect rather than direct and is mediated by the actions of the CEO and other members of the top management team (cf. Westphal & Fredrickson, 2001). Governance is seen as an indirect, secondary form of strategic control while management exercises direct, primary control (Johnson, Hoskisson, & Hitt, 1993). These substantive differences suggest that theoretical perspectives developed to illumine scholarly understanding of top management teams may have limited application outside that domain.

A key result is that the domains of governance and management may not be equally subject to perspectives such as upper echelons thinking that illumine one or the other. Therefore, while agency considerations should take into account the balance of power between management and the board as well as other governance mechanisms, notions of managerial power (Finkelstein, 1992) may not explain the types of power considerations necessary for the proper application of agency theory. The firm continues to remain a reflection of its top managers (Hambrick & Mason, 1984) but is perhaps much less so a reflection of the board of directors.

A limitation of this conceptual framework lies in reliance only on board characteristics as components of board power. CEO duality may be a reflection both of board characteristics and those of the CEO. A

limitation of the notion of board power developed here is the assumption that the basis of board power lies primarily within the nature and characteristics of the board. It is likely, however, that the characteristics of the incoming CEO also play a role in the decision of the board to confer this title. A CEO who has served previously as CEO and chair at another firm may have considerable clout in negotiating a new CEO appointment at the focal firm and successful seek to be appointed to both roles or to work out an arrangement to assume the chair after a certain period of time. In addition, this model of board power does not take into account the existence of the predecessor CEO remaining on the board (Quigley & Hambrick, 2008). The concept of board power may be incomplete without also considering such conditions. Indeed, Finkelstein and Hambrick (1996) propose that the capacity of the board to perform its monitoring function depend on the distribution of the power of power between a board and its CEO. Consideration of this distribution of power implies inclusion of managerial considerations in addition to those of the board.

CONCLUSION

Underlying the logic of this conceptual study is the fact that while boards may indeed appoint a CEO as also board chair, the board still retains the authority to reverse that decision. While corporate governance literature (e.g., Finkelstein and Hambrick, 1996) normatively views board structure as consisting primarily of board size and of the division of labor between the board chair and the CEO, scholars also recognize the ambiguous nature of the theoretical rationale for separation of the two leadership roles. This study seeks to distinguish between the actual division of labor between CEO and chair and the legal and intrinsic authority of the board to allocate those tasks. Seen this way, the issue of CEO duality is seen as an outcome rather than as a dimension of board power. However, the practical implications of the division of labor between the two leadership roles suggest that CEO duality may be endogenous to board power rather than board characteristics being exogenous to CEO duality. Indeed, CEO duality may truly be a dimension of board power rather than an outcome of. The upper echelons perspective views the firm as a reflection of its top managers (Hambrick & Mason, 1984), and the board of directors may be equally a reflection of the organization's leaders.

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THE IMPACT OF OSTRICH MANAGERS ON STRATEGIC MANAGEMENT

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ABSTRACT

This article describes the differences between ostrich (non-strategic) managers and strategists. It also provides a “Quick Test” to determine the extent to which one is an ostrich manager and discusses options for moving from ostrich manager to strategist. In addition, the article reminds us that ostrich managers hide from the present and fail to contemplate the future while strategists seek to understand the present and use it as a foundation for confronting and/or inventing the future.

INTRODUCTION

One of the most important roles a manager can play is that of strategist. However, many people in authority function as ostrich managers rather than strategists, thereby limiting their own effectiveness as well as the effectiveness of their organizations. By choosing to positively impact the strategic management of an organization, its leaders can help determine the organization’s future as well as its influence on the history and future of the world (Pryor, White, and Toombs, 2007, 1998). Yet ostrich managers choose not to have such positive impact.

METHODOLOGY

The authors developed a survey entitled Ostrich Manager Quick Test (Chart 1) for managers who wish to assess themselves and determine the extent to which they are ostrich managers or strategists.

Chart 1: Ostrich Manager Quick Test	
Ostrich Manager Quick Test	
<p>The following simple test is provided for managers who wish to assess themselves to see if their actions would encourage people to call them ostrich managers or strategists.</p> <p>Please answer the following questions as: (1) Always, (2) Usually, (3) Sometimes, (4) Rarely, and (5) Never to determine the extent to which you are an ostrich manager.</p>	
<p>___ 1.</p> <p>___ 2..</p> <p>___ 3.</p> <p>___ 4.</p> <p>___ 5.</p> <p>___ 6.</p> <p>___ 7.</p> <p>___ 8.</p> <p>___ 9.</p> <p>___ 10.</p> <p>___ 11.</p>	<p>Do you avoid difficult confrontations with others, even though you intuitively feel that the confrontation is necessary?</p> <p>Are you unaware of the common work problems faced by members of your staff (all the way down to the lowest level in your group)?</p> <p>Are you unaware of the common personal problems faced by members of your staff (all the way down to the lowest level in your group)?</p> <p>Do you ignore ideas or comments that don't fit within your paradigms or your view of the world?</p> <p>Do you make decisions that significantly affect other people without getting their inputs or without fully knowing the consequences of your decisions?</p> <p>Are you hesitant to believe information that is discomfoting or "bad news"?</p> <p>Do you ever "skirt the truth" to protect people's feelings?</p> <p>Do you discourage people in your organization to point out problems?</p> <p>Do you discourage other people outside your organization (i.e., suppliers and customers) to point out problems within your organization and suggest improvements?</p> <p>Do you avoid making personnel decisions that would be difficult for people to handle personally, even though you think they would be good business decisions for your group or the organization?</p> <p>Do you consider only the short-term consequences of actions and decisions?</p>
<p>Scoring:</p> <p>11-22 Unfortunately, you're an ostrich manager. Accept this fact and try to change because this behavior is detrimental to your effectiveness as a manager and to your organization as a whole.</p> <p>23-43 The good news is you're not completely an ostrich manager. You may be middle-of-the-road for all questions or you may have found that you act like an ostrich manger on some occasions and act like a strategist on other occasions. Keep up the good work on the issues for which you're a strategist, buy try to correct the situations in which you tend to bury your head.</p> <p>44-55. As a strategist, you have developed the ability to create your own future as well as the future of your organization. Keep up the excellent work.</p>	

In an attempt to test construct validity and convergent validity, this survey was administered online to graduate Business students who are currently working or have worked in management, supervisory and/or team leader positions. Sixty-eight out of 113 (60%) responded to the survey. The students were able to respond anonymously. The results of the survey are presented in Table 1.

Table 1: Ostrich Manager Quick Test Survey Results

Quick Test Questions	1 Always %	2 Usually %	3 Sometimes %	4 Rarely %	5 Never %
1. Do you avoid difficult confrontations with others, even though you intuitively feel that confrontation is necessary?	1.5%	22.4%	55.2%	20.9%	1.5%
2. Are you unaware of the common work problems faced by members of your staff (all the way down to the lowest level in your group)?	4.5	11.9	34.3	47.8	3.0
3. Are you unaware of the common personal problems faced by members of your staff (all the way down to the lowest level in your group)?	3.0	10.4	53.7	31.3	3.0
4. Do you ignore ideas or comments that don't fit within your paradigms or your view of the world?	3.0	9.0	28.4	41.8	19.4
5. Do you make decisions that significantly affect other people without getting their inputs or without fully knowing the consequences of your decisions?	3.0	1.5	16.4	58.2	22.4
6. Are you hesitant to believe information that is "discomforting" or "bad news?"	1.5	16.4	44.8	31.3	6.0
7. Do you ever "skirt the truth" to protect people's feelings?	1.5	13.4	58.2	16.4	11.9
8. Do you discourage people in your organization to point out problems?	3.0	1.5	7.5	37.3	52.2
9. Do you discourage other people outside your organization (i.e., suppliers and customers) to point out problems within your organization and suggest improvements?	3.0	4.5	16.4	20.9	56.7
10. Do you avoid making personnel decisions that would be difficult for people to handle personally even though you think they would be good business decisions for your group or organization?	0.0	10.6	21.2	48.5	21.2
11. Do you consider only the short-term consequences of actions and decisions?	1.5	6.0	25.4	38.8	28.4

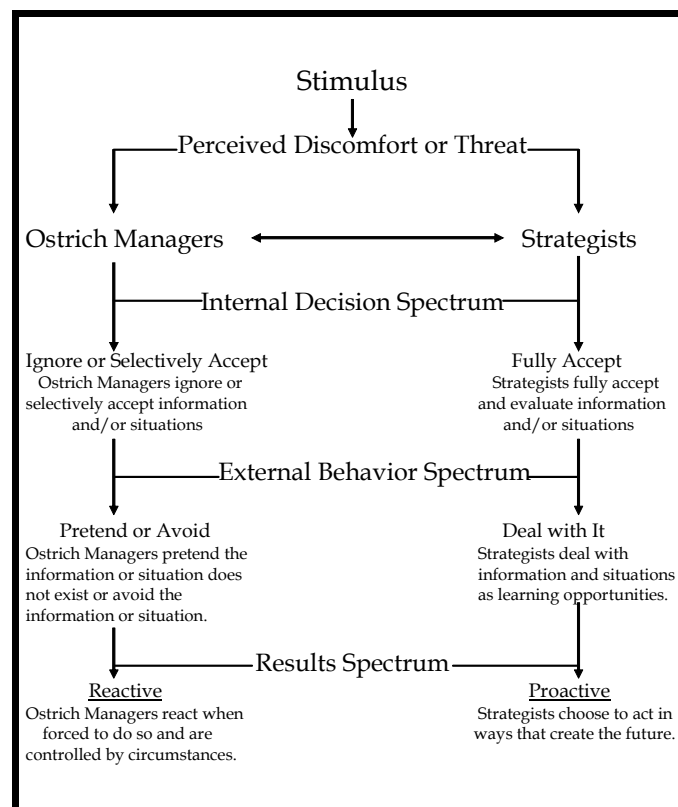
WHAT IS AN "OSTRICH MANAGER"?

The term "ostrich manager" comes from the common belief that an ostrich will bury its head in the sand to protect itself when faced with a threat. In reality, when confronted with a perceived threat, an ostrich will flatten its head to the ground until the threat is gone. By feigning death, the ostrich hopes to avoid a predator's attack. As a result of this behavior, ostriches have achieved notoriety for "burying their heads in the sand" in response to real or perceived environmental threats. This is a very simple strategy—ignore the threat and maybe it will go away. This strategy promotes the concept of "out of sight, out of mind." However, many times the threat does not go away, and this can make the situation worse. By "burying its head in the sand" an ostrich reduces the possibility for success of other potential responses such as fight or flight (Smith & Grosso, 2008).

Some human beings also tend to avoid situations that are perceived as discomforting or threatening. Sometimes they even pretend that these situations do not exist. Since these human beings are replicating ostrich behavior, we have named people exhibiting the behavior associated with this phenomenon as ostrich managers. While it is not productive for any employee within an organization to exhibit this behavior, it is especially detrimental when a manager has this mindset because of the sphere of influence that a manager typically has. The managers at the top of the hierarchy represent the greatest danger. Unfortunately, in some organizations many managers at all levels seem to have an ostrich mentality. Kipp (2004, pp 63-64) suggests that “some (ostrich) leaders have disempowering charisma . . . and absorb only the positive projections around them, seeing the world as they wish it to be and resisting both messages and messengers to the contrary.”

Similar to an ostrich avoiding a threat by “burying its head,” an ostrich manager avoids the truth or reality because it is perceived as threatening or discomforting (Figure 1). Whether this threat or discomfort comes from a dysfunctional relationship with another person, some bit of information, an employee’s idea, or another actual or perceived situation, the ostrich manager reacts or responds by ignoring the threat, putting it aside, or pretending that it does not exist.

Figure 1: Ostrich Managers and Strategists



Even when the correct action or solution is evident to everyone, ostrich managers are experts at rationalizing and making excuses for not taking an appropriate action or permanently solving a problem. Ostrich managers are not leaders seeking development or change. They are bureaucrats who seek safety and status quo. Sometimes, ostrich managers become lazy or seem to be petrified by fear.

Managers may act like ostriches for many reasons including fear of change and uncertainty, the discomfort of learning and personal growth, the discomfort of unpleasant information, protection of one's ego or position in a company, and the comfort of the current familiar situation. See Figure 1 which depicts the differences in how Ostrich Managers and Strategists perceive threats, how they make decisions based on the perceived threats, and how they act based on the stimuli and their own respective decisions.

WHAT IS A STRATEGIST?

According to Hitt, Ireland, and Hoskison (2008, p. 22), "strategic leaders are people located in different parts of the firm using the strategic management process to help the firm reach its vision and mission." Martin (2007, pp. 60-62) says that people are "drawn to stories of effective leaders in action . . . their bold moves, often culminating in successful outcomes, make for gripping narratives. But this focus on *what a leader does* is misplaced . . . because moves that work in one context often make little sense in another, even at the same company or within the experience of a single leader. A more productive, though more difficult, approach is to focus on *how a leader thinks*." Strategists think differently. They are integrative thinkers who willingly confront messy problems and complex situations. These integrative thinkers are simply putting to work the human capability to simultaneously hold opposing views in constructive tension and contemplate them in such a way that they are able to "think their way" toward superior ideas (Martin, 2007). Kotter (1990) might differentiate a bit differently (i.e., between managers and leaders). He says that management is about coping with complexity and leadership is about coping with change (or perhaps initiating change as they invent the future). So it would appear that Kotter is addressing strategic managers as well as strategic leaders.

Martin (2007, p. 67) goes on to say that "integrative thinking is a 'habit of thought' that all of us can consciously develop to arrive at solutions that would otherwise not be evident." In fact, he suggests that we should teach integrative thinking as a concept in business schools (Martin, 2007). Strategic management courses are an obvious choice of where to teach integrative thinking.

While ostrich managers usually hide from the present and fail to contemplate the future, strategists seem to be passionate about understanding the present and using it as the foundation for inventing the future. Strategic managers and leaders simultaneously develop and execute plans that focus on the short term success and long term viability of their organizations. They understand that strategic execution is the key to long term and short term success (Pryor, Anderson, Toombs, & Humphreys, 2007).

CHARACTERISTICS OF OSTRICH MANAGERS

Since ostrich managers have difficulty acknowledging the existence of (or responding to) threats, their actions tend to be supportive of the status quo and not focused on improving operations and relationships. Threats and discomfort can come in many different forms, and managers may not even realize

that they are using an “out-of-sight, out-of-mind” approach. It is possible that ostrich managers may tend to act in ways that are negative for their organization and/or the people involved. For example, they may:

- ◆ Avoid co-workers with whom they have differences even though there are good business reasons to communicate with these co-workers;
- ◆ Deny information that does not fit within their paradigms or assumptions;
- ◆ Avoid information or situations that are real and true, but uncomfortable;
- ◆ Be unaware of the common situations that their employees, suppliers, and customers face regularly;
- ◆ Allow non-productive circumstances to continue because of the difficulty and discomfort in correcting the situation;
- ◆ Avoid solving major problems because of the time and effort required;
- ◆ Consistently work with the wrong information or assumptions and make no effort to correct them or seek better data;
- ◆ Create a work atmosphere with poor morale and little enthusiasm;
- ◆ Be oblivious, or pretend to be oblivious, to the way things really get done within their groups;
- ◆ Seek self-preservation and avoid discomfort that might result from conflict, change, bad news, etc.

Forms of perceived discomfort and threats which may cause people to function as ostrich managers are: conflict (Smith & Grosso, 2008), unexpected information or circumstances, loss of reputation, loss of financial incentives, difficult relationships, failure, disappointment, rejection, intimacy or revealing one’s true nature to someone, completely trusting someone, additional responsibilities, and seemingly overwhelming or impossible tasks.

OSTRICH MANAGEMENT, RESPONSIBILITY, AND ORGANIZATIONAL IMPACT

Ostrich managers may attempt to avoid responsibility by delegating it to their direct reports. Attempting to delegate responsibility violates a management principle relating to authority and responsibility. People can not delegate their own personal responsibility. When someone delegates to another person the authority to do something, the person receiving the authority is then responsible (i.e., accountable) for doing it. However, the delegator is still personally responsible for the results. For example, the president of a university delegates to people under his or her direction the authority to ensure that hiring practices are legal and ethical. Such authority carries with it commensurate (coequal) responsibility. If in the process of hiring a teacher, a team of teachers violates an equal employment law and the injured person files a lawsuit, he or she could sue (and hold responsible) the team of teachers, the department chair, the academic dean, the academic vice president, the president, et al. In other words, everyone in the chain of command from the president all the way down to, and including, the team of teachers would be responsible for the violation of the law because the president could only delegate his or her authority, not personal responsibility.

Personal responsibility also exists when a person should have known and/or should have done something. When there are major breeches of ethics and/or legalities, sometimes people attempt to prove that they did not know that people under their direction were doing something unethical or illegal. For example, scandals and/or alleged scandals, ethical issues, and illegalities at British Petroleum, BMW, the Catholic Church, Daimler Chrysler, Enron, HCA, HealthSouth, Nyack Hospital, Oral Roberts University, United Way, Volkswagen, World Bank, WorldCom, and other organizations show how organizations are vulnerable to the malevolent intentions of individuals who create chaos and seek personal enrichment at great cost to others, often leaving a legacy of financial ruin (Cleverly, 2002; Davis, 2005; Dougherty, 2007; Evans, 2005; Lindgreen, 2004; Padgett, 2007; Salmon, 2004; Sonnefeld, 2007; and Stires, 2004). From a legal perspective we don't have all the answers about responsibility in all of the above mentioned organizations. However, from a management perspective, the answer is very clear. People can not delegate (or abdicate because they are ostrich managers) their own personal responsibility for the assurance of ethics and legality within the areas under their direction.

Miles and Snow (1978) classified organizations as (1) Prospector organizations which thrive in changing, unpredictable business environments by exploiting new opportunities; (2) Defender organizations which function best in stable environments where they can strive for efficiency and rely on long-term planning; (3) Analyzer organizations that share some of the characteristics of Prospector and Defender organizations in that they focus on operational efficiency, but also on enough flexibility to meet new challenges; and (4) Reactor organizations that do not have a systematic strategy, design, or structure and are not prepared for changes they face. We would add a fifth organizational classification which we would entitle Pretender or Avoider. Organizations in the fifth classification face unique challenges because they are led by ostrich managers or managers who vacillate between functioning as ostrich Managers and strategists. Such managers often avoid facing internal and external realities and the people who could help with those realities.

MOVING FROM OSTRICH MANAGER TO STRATEGIC LEADER

Once managers encounter a stimulus that causes discomfort or a stimulus that is a perceived threat, they choose to respond as strategists or ostrich managers. Figure 1 compares the behaviors of strategists and ostrich managers on several spectrums. As depicted in Figure 1, the strategist will accept all data as being potentially beneficial, evaluate the data, determine its usefulness, and act based on the data. In fact, strategists are especially eager to receive information that is potentially threatening so that their actions can be proactive. Strategists invent the future and, therefore, value each piece of data as a contribution to the future.

Ostrich managers tend not to invent the future. Instead, they protect the status quo because changes are perceived as threats and sources of discomfort. Yet, in the past, ostrich managers who were often successful because they were good at "doing what we've always been doing." They did not rock the boat or make waves. They were squeaky clean, comfortable replicas of the bosses who promoted them. In today's business environment, this generally tends to be a less successful approach.

The good news is that ostrich managers can choose to become strategists. Notice that they must *choose* this behavior. Knowledge is useless unless it is applied; and awareness is detrimental if it is not accurate. While old habits die hard, it is still possible to change behavior such as ignoring information or pretending that it does not exist. However, before managers can change their behavior, they must change their fundamental assumptions because assumptions are the drivers of behavior. Ostrich managers hold the

following fundamental assumptions: Self preservation is more important than company preservation; short term results are valid predictors of long term results; protecting people from the truth helps them more than revealing to them the truth; and problems will go away or resolve themselves if ignored. The fundamental assumptions of strategists are the opposite: Self preservation is accomplished through company preservation; short term results are not a valid indicator of long term results; people need to know the truth so that they can act accordingly; and problems will only get worse if ignored.

In his book *Managing Transitions*, William Bridges (1991) offers a quote that reflects that change must be internalized if fundamental assumptions are to be changed:

“It isn’t the changes that do you in, it’s the transitions. Change is not the same as transition. *Change* is situational: the new site, the new boss, the new team roles, and the new policy. *Transition* is the psychological process people go through to come to terms with the new situation. Change is external, transition is internal...Unless *transition* occurs, *change* will not work.”

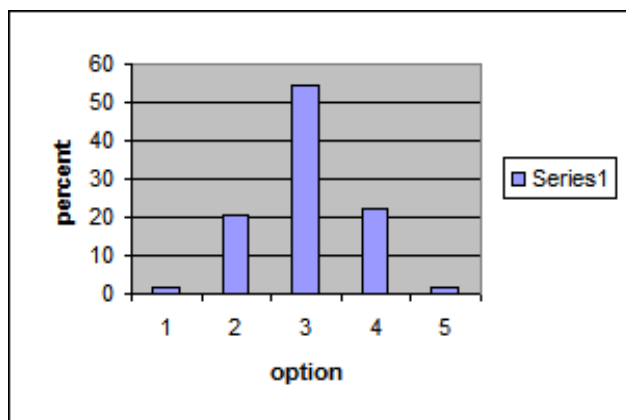
After understanding their own fundamental assumptions, managers should evaluate the extent to which they are ostrich managers and decide the extent to which they wish to be strategists. They then need to brief their team members, staff, and others about the need for strategists and the dangers posed by ostrich managers at any level of the organization. At this point, they can solicit help from others in their respective journeys from ostrich manager to strategist. This journey will sometimes be painful for an ostrich manager who prefers safety and security because personal development and growth are often painful as the old self dies and the new self is born. However, becoming a strategist offers the only potential for more long term safety, security, and satisfaction.

SURVEY RESULTS

Of the respondents to the survey, 20.6% were classified as strategists, 1.5% were classified as ostrich managers, and 77.9% were classified as “middle of the road” managers (i.e., those who function as an ostrich manager or a strategist, depending on the circumstances). So, in terms of the complete test, few people were classified as ostrich managers. However, the respondents classified themselves as ostrich managers when answering some specific questions. For example, for Question 1, “Do you avoid difficult confrontations with others, even though you intuitively feel that the confrontation is necessary,” 23.9% said always or usually, and another 55.2% said sometimes.

Chart 2: Ostrich Manager Survey Question 1

**Do you avoid difficult confrontations with others, even though you
Intuitively feel that the confrontation is necessary?**



Options	Numeric Value	Percentage
Always	1	1.5
Usually	2	20.6
Sometimes	3	54.4
Rarely	4	22.1
Never	5	1.5

From this study, it appears that managers may exhibit ostrich behavior even if they are generally more inclined to be strategists. See Table 1 for survey results.

CONCLUSION

Ostrich managers tend to “bury their heads in the sand” by ignoring or avoiding information and situations that they perceive as threatening or discomforting. When they act like ostrich managers and ignore or avoid information that is essential to the strategic management, people can have a severe, negative impact on their organizations, themselves, and society. Strategists, on the other hand, eagerly seek all information whether it is good or bad so that it can be integrated and acted upon as they invent the future and set the standards for excellence in their respective organizations and industries. An Ostrich Management Quick Test is provided as Chart 1. This test can be used to determine the extent to which a person is an ostrich manager or a strategist. Ostrich managers can then learn how (and choose) to be strategists.

IMPLICATIONS FOR FUTURE RESEARCH

Being classified as an ostrich manager may not have as much relevance for individual managers or their direct reports as the knowledge that a large percentage of the respondents acknowledged on the Quick Test that they sometimes exhibit ostrich manager behavior. In other words, even though they are strategists, they sometimes or often function as ostrich managers. They sometimes or often make decisions, avoid

making decisions, act, or fail to act in ways that are typical of ostrich managers. For those circumstances, the resulting impact on organizations and their people can be negative. A future study should investigate strategic and tactical organizational impact as well as ostrich manager behavior. In addition, researchers should address the extent to which it would be beneficial for organizational leaders to attempt to ensure that they are hiring, developing, and promoting people who have strategist tendencies as opposed to ostrich management tendencies. It may also be worthwhile for teachers to address the potential for negative impact when organizational leaders behave like ostriches.

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CURRENT MISSION STATEMENT EMPHASIS: BE ETHICAL AND GO GLOBAL

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ABSTRACT

Mission statements are a critically important piece of business communication from an organization to all of its stakeholders. They must be constantly revised and modified in response to changes within the organization and its environment. This paper examines current mission statements found on the 2008 Fortune 500 list of companies. In an attempt to maintain a reasonable length article, the authors have chosen to analyze the top 50 Fortune firms listed on the CNN Money website located at <http://money.cnn.com/magazines/fortune>. The results of this study are compared with an article published in the Academy of Managerial Communications Journal in 2001 by the lead author of this paper.

Given the current global economic conditions, the authors attempted to determine if such conditions affected the content of current mission statements. First, it appears that many organizations are emphasizing the significance of international or global operations in their mission statements. Today it is relatively easy for even a small firm to develop a webpage and market goods around the world. A second emphasis in current mission statements involves “going green.” The authors’ definition of “going green” includes the concepts of ethical behavior, being socially responsible, and protecting the environment. In addition to reviewing goals and objectives discussed in mission statements, the authors also analyze the stakeholders included in a typical 2008 mission statement.

INTRODUCTION

Mission statements are vital communications used by corporations to define themselves to their various stakeholders including customers, employees, creditors, and stockholders. Mission statements can be as short as one sentence or expand to one or two paragraphs. These statements attempt to communicate the organization’s values, purpose, identity, and primary business goals. Mission statements are often longer than a vision statement which provides a broader statement reflecting the future aspirations of the company.

Fred David argues that a mission statement is a declaration of an organization’s “reason for being” (David, 2009). A clear mission statement is necessary for the firm to effectively establish objectives and formulate long-term strategies. David also states that every organization has a reason for being and any organization that fails to develop a comprehensive and inspiring mission statement loses the opportunity to present itself favorably to existing and potential stakeholders. According to David, a good mission statement reveals an organization’s customers, products or services, markets, technology, concern for survival, growth,

and profitability, philosophy, self-concept, concern for public image, and concern for employees. These factors, he believes, serve as a practical framework for evaluating and writing mission statements.

Peter Drucker believes that firms need to develop a mission statement that answers the questions “What do we want to become?” and “What is our business?” when the firm has been successful (Drucker, 1974). This proactive approach attempts to define how the firm can continue to excel and improve operations. Many authors feel that organizations develop mission and vision statements only when the company is in trouble (David, 2009). This reactive approach is far less effective and David feels that development of mission statements in times of crisis is a gamble that “characterizes irresponsible management.”

Rebecca Leet believes that developing a mission statement is especially important for non-profit organizations and charities (Leet, 2008). Leet feels that just as strategic planning taught groups how to organize and focus their functions internally to achieve their missions, developing a strategic message teaches them how to organize and focus externally by recognizing who their supporters are and linking the organization’s goals to what drives people to take the action it seeks. This basic philosophy applies to for-profit organizations since these firms want customers to continue purchasing their goods and services and also hope that stockholders and employees will continue to support the organization.

According to King and Cleland, a carefully constructed mission statement must, among other things, ensure unanimity of purpose within the organization, provide a basis, or standard, for allocating organizational resources, establish a general tone or organizational climate, serve as a focal point for individuals to identify with the organization’s purpose and direction, and specify organizational purposes and translate them into objectives for the firm (King and Cleland, 1979). It is clear that a mission statement is expected to serve many purposes as it includes goals and objectives that affect both internal and external stakeholders.

Steiner feels that a mission statement should be expressed at high levels of abstraction (Steiner, 1979). He feels that mission statements are not designed to express concrete ends but instead should promote “motivation, general direction, an image, a tone, and a philosophy to guide the enterprise.” Steiner feels that excess detail in the statement could be counterproductive. A certain amount of vagueness provides more flexibility in adapting to changing environments and internal operations (Steiner, 1979).

Vern McGinnis believes that a good mission statement must accomplish a number of important objectives (McGinnis, 1981). First, the statement must define what the organization is and what it expects to be in the future. Next, the mission must distinguish the organization from all others. In addition, it must be limited enough to exclude some ventures but broad enough to allow for creative growth. The mission statement must also serve as a framework for evaluating both current and prospective activities. Finally, it must be stated in terms that are clear enough to be understood throughout the entire organization. This certainly shows that much is expected from one short communication that affects both internal and external stakeholders.

Many authors report that an increasing number of organizations are developing and issuing mission statements (David, 2009). David states that some firms issue mission statements simply because they are fashionable and the “thing to do.” He argues that proactive organizations systematically revisit and revise both their mission and vision statements and treat them as living documents. This is certainly a logical approach since the internal operations of the firm and the external environment are constantly changing. A mission statement must be revised as the goals and objectives of the firm are updated.

The first author of this article previously published a review of Fortune 100 mission statements in the *Academy of Managerial Communications Journal* (King, 2001). It is the authors' intent in this paper to compare the 2001 mission statement content with the current 2008 versions. The appendix includes a listing of mission statements from the top 50 companies found in the 2008 Fortune 100 summary. The authors' analysis includes a review of the stakeholders and the goals and objectives of the firm. Significant changes in both of these areas are reviewed in this paper.

REVIEW OF PREVIOUS LITERATURE AND RELATED FINDINGS

A significant amount of research has been conducted concerning mission statements in recent years. Firms realize that this brief communication is critically important to both internal and external stakeholders. The management and employees of the organization look to the mission statement in an attempt to determine if their daily decisions support the mission of the firm. External stakeholders including creditors and stockholders look to the mission statement in an attempt to understand the primary goals and objectives of the company. An effective mission statement is also necessary for colleges and universities as faculty and administration formulate strategic plans based on their effect on the school's mission.

In recent years, mission statements can generally be found on company websites. In a previous 2005 study by Jones, Little and Lovett, the authors found that only 327 or 65% of the Fortune 500 companies included a mission statement on their website (Jones, Little, and Lovett, 2005). The mission statements were located predominantly (60%) under the "About the Company" caption on the website. The remaining 40% of the firms listed the mission statement under other corporate information, investor relations, or a variety of other places on the site. In many cases the mission statement was not readily accessible by an interested party.

A later study in 2007 by some of the same authors found that the number of Fortune 500 firms that posted a mission statement on their website had increased to 415 or 83% of the firms (Jones, Lovett, and Blankenship, 2007). Surprisingly, 85 organizations did not place their mission statement on their webpage. A survey of these firms by these authors found that of the 25 firms that responded only six supplied a mission statement. The other 19 businesses stated that they had no mission statement, replied with auto-response and gave no further help, or stated other reasons why the mission statement was not available such as it was being revised.

Historically, mission statements have included a listing of primary stakeholders and the basic goals and objectives of the organization. The first author's study in 2001 involved a review of both of these areas. King based his study on the 2000 Fortune 100 list and found that customers, stockholders, and employees were the three most mentioned stakeholders (King, 2001). The most commonly mentioned goals or objectives of the firm included quality, general core values, leadership, global emphasis, technology, profits, and ethics. This was in the pre-9/11 and Sarbanes-Oxley period. The authors hope to compare and contrast these mission statements with those in the 2008 Fortune list. A summary of the 2000 Fortune 100 mission statements is provided in Table 1.

Table 1: 2000 Fortune 100 - Mission statements that included:	
Customers 61	Quality 25
Stockholders 34	Core Values 25

Employees 21	Leadership 17
Competitors 9	Global 15
Suppliers 6	Technology 14
Government 2	Environmental 9
Profits 6	Ethics 3

The mission statements of 2000 showed very little emphasis on ethics since only three firms (3%) from the top 100 companies included this concept. Also, at this time, only nine firms (9%) included the importance of protecting the environment. In recent years, ethical practices and “going green” to protect the environment have been extremely important goals for all business organizations. The importance of being a global business was only emphasized in 15% of the top 100 firms in 2000. It was logical that the two top stakeholders mentioned in mission reports were customers and stockholders with customers mentioned twice as often as stockholders. Finally, employees were also commonly mentioned with 21% of the companies including them in the mission.

The authors, in their study of 2008 Fortune top 50 firms, were interested in the revisions and modifications that firms have made in the last eight years in their mission statements. Did the 9/11 tragedy and the passage of the Sarbanes-Oxley Act in 2002 have a significant effect on the published mission statements of the largest firms? If so, these firms should emphasize ethical behavior and social responsibility (and protection of the environment) in their 2008 mission statements. Also, with the rapid development of technology and the ability to market goods internationally, these mission statements should also show increased emphasis on becoming a global company. The following section of this paper provides a mission statement content summary of the 2008 statements.

2008 TOP 50 FORTUNE COMPANY MISSION STATEMENTS

The appendix includes the details of the top Fortune 50 company’s mission statements. Only two firms (4%), Berkshire Hathaway and Lehman Brothers Holdings, did not provide a mission or vision statement, a corporate credo, or a list of core values. The appendix includes the other 48 company’s communication in the form of one of the previously mentioned documents. In the previous 2000 study of the Fortune 100 firms, a total of 13 (13%) companies did not have a mission statement available for public review. It appears that most organizations in 2008 realize the importance of providing a thoughtfully developed mission statement to all stakeholders. Table 2 summarizes the mission statement content of the 2008 Fortune top 50 firms.

Customers 31	Quality 26
Employees 17	Global 17
Communities 15	Ethics 15
Stockholders 14	Environmental 8
Core Values 7	Leadership 7
Suppliers 5	Profits 6
Government/Laws 2	Technology 1

Table 2 shows that for the top 50 Fortune firms' customers and employees continue to be the most mentioned stakeholders. From a goals and objectives point of view, the importance of producing and selling a quality product was most often included in the mission statement. The next two most common goals included being a global provider of goods and services and a firm that considers ethics and ethical behavior to be of primary importance. In an effort to better present the results from the 2000 study that included the top 100 firms and the 2008 study that included the top 50 companies, a table is presented below that utilizes a percentage format. Table 3 summarizes the percentage of firms whose mission statements included the following stakeholders and goals from the Fortune listing of firms from 2000 and 2008.

Stakeholder	2000 Study	2008 Study
Communities	6%	30%
Competitors	9%	0%
Customers	61%	62%
Employees	21%	34%
Govt./Law	2%	4%
Stockholders	34%	28%
Suppliers	6%	10%
Goal/Objective		
Core Values	25%	14%
Environmental	9%	16%
Ethics	3%	30%
Global	15%	34%
Leadership	17%	14%
Profits	6%	12%
Quality/Value	25%	52%
Technology	14%	2%

It appears that the largest organizations have embraced the term “communities” in their mission statements. In 2000, only 6% of mission statements included the concept of communities. Only eight years later, 30% of the top businesses have chosen to include this term. Examples of the “communities” concept include:

- ◆ Chevron: Our Company’s foundation is built on our Values, which distinguish us and guide our actions. We conduct our business in a socially responsible and ethical manner. We respect the law, support universal human rights, protect the environment, and benefit the communities where we work.
- ◆ Valero Energy: Commitment *to* our Communities - We are committed to taking a leadership role in the communities in which we live and work by providing company support and encouraging employee involvement.
- ◆ Cardinal Health: We consider the highest standards of personal and professional ethics as the cornerstone of trust among our customers and ourselves; We deliver on the commitments we make; We recognize our obligation to the communities where we live and work; We hold ourselves accountable not only for what we achieve but how we achieve it.

It also appears that firms have considered the importance of the Sarbanes-Oxley Act and its emphasis on ethical behavior. In the 2000 mission statements only 3% included the important goal of emphasizing ethics and ethical behavior. That figure increased ten-fold in 2008 with 30% of the firms including this critically important concept in their current statement. Examples of an emphasis on ethics include:

- ◆ Exxon Mobil: Is committed to being the world’s premier petroleum and petrochemical company. To that end, we must continuously achieve superior financial and operating results while adhering to the highest standards of business conduct.
- ◆ Chevron: See above with communities.
- ◆ AT&T: We operate with unyielding integrity, obeying all laws and adhering to a stringent code of business conduct. We will not tolerate unethical business conduct by our team members.
- ◆ General Electric: Always With Unyielding Integrity.

The comparison of the 2000 and 2008 mission statements also shows a significant increase in the percent of mission statements that include employees (21% in 2000 and 34% in 2008). This is not surprising as organizations realize that their most precious asset is their employees. The number of mission statements naming stockholder decreased from 34% in 2000 to 28% in 2008. Those firms that listed “core values” in the place of a traditional mission statement decreased from 25% to 14% probably due to the firm actually preparing a more traditional mission statement.

The percentage of firms stating the goal or objective of being a global company increased significantly from 15% to 34%. This is logical since current technology allows even small firms to construct a homepage on the Worldwide Web and sell goods and services internationally. Some typical examples included:

- ◆ Ford: We are a global family with a proud heritage passionately committed to providing personal mobility for people around the world.
- ◆ ConocoPhillips: Use our pioneering spirit to responsibly deliver energy to the world.
- ◆ Proctor & Gamble: We will provide branded products and services of superior quality and value that improve the lives of the world's consumers.

Finally, a major change in these large company mission statements is the number that includes the goal of producing a high quality good or service or on that is of exceptional value to the firm's customers. The percent of statements that included this concept increased from 25% in 2000 to 52% in 2008. Examples of these firms included:

- ◆ Proctor & Gamble: See statement above.
- ◆ State Farm Insurance: Our success is built on a foundation of shared values -- quality service and relationships, mutual trust, integrity and financial strength.
- ◆ Costco Wholesale: We will realize this mission by setting the highest standards in service, reliability, safety and cost containment in our industry.

The following sections of this paper provide examples of mission statements that emphasize several stakeholders or goals and objectives. These are illustrative of the information that large firms are attempting to communicate to all interested parties. These mission statements clarify the purpose and direction of the company and discuss what goals and stakeholders are most important to the firm.

STAKEHOLDER EXAMPLES

Certain mission statements include multiple stakeholders which show the concern of the company for a number of diverse groups. The following three examples clearly show the firm is concerned with a variety of external parties. The first statement listed below from Kroger company is a clear and concise mission that includes all major stakeholders. The next mission statement for Marathon Oil includes the popular term "communities" and mentions the importance of the firm's business partners. The third example for Wachovia Corporation not only mentions a number of important stakeholders but also emphasizes ethical behavior in the process of "doing what is right."

Kroger

Our mission is to be a leader in the distribution and merchandising of food, health, personal care, and related consumable products and services. By achieving this objective, we will satisfy our responsibilities to shareowners, associates, customers, suppliers, and the communities we serve.

Marathon Oil

Marathon is a company that strives to bring value and values together. We create value for our shareholders and provide quality products and services for our customers. In doing so, we act responsibly toward those who work for us, the communities in which we operate and our business partners.

Wachovia Corporation

Vision Statement: We believe Wachovia's depth of expertise, breadth of products, multiple delivery choices, and financial strength create long-term value. Our goal is to be regarded as the nation's premier financial services company by doing what's right for shareholders, customers, communities, and employees.

GOALS OR OBJECTIVES EXAMPLES

The first example from Caterpillar Corporation is very comprehensive. It not only names a variety of stakeholders but also reviews the firm's goals of leadership, quality and value, profits, ethics, and social responsibility. The second example is the mission statement for American International Group. The effects of the Sarbanes-Oxley Act (SOX) are visible as the firm uses the term "corporate culture" in their mission. SOX emphasizes the fact that every firm must maintain an ethical corporate culture in all of their daily operations. The final example is from Merrill Lynch. This mission statement clearly emphasizes ethical behavior and responsible citizenship. Since SOX, large corporations realize that they must establish a corporate culture that emphasizes ethical behavior and social responsibility.

Caterpillar

Caterpillar will be the leader in providing the best value in machines, engines, and support services for customers dedicated to building the world's infrastructure and developing and transporting its resources. We provide the best value to customers.

Caterpillar people will increase shareholder value by aggressively pursuing growth and profit opportunities that leverage our engineering, manufacturing, distribution, information management and financial services expertise. We grow profitably.

Caterpillar will provide its worldwide workforce with an environment that stimulates diversity, innovation, teamwork, continuous learning and improvement and rewards individual performance. We develop and reward people.

Caterpillar is dedicated to improving the quality of life while sustaining the quality of our earth. We encourage social responsibility.

American International Group

As a global financial services organization, we have committed our resources to developing products and services that address the needs of our clients as well as promote a corporate culture that values integrity, diversity, innovation and excellence.

Merrill Lynch

At Merrill Lynch, Responsible Citizenship is more than a principle. It is a way of life. Through our global philanthropic efforts, we combine our financial resources and expertise with our greatest asset, our people, to build brighter futures in the communities throughout the world in which our employees and clients live and work. To achieve that goal, our charitable giving targets innovative and effective programs for children and youth that provide direct services, have potential for broad impact, and offer significant volunteer opportunities for Merrill Lynch employees.

CONCLUSION

This paper has compared mission statement content from 2000 with current Fortune 500 listings in 2008. It appears that SOX has had an effect on the content of the mission statements as 30% of the 2008 statements reviewed included wording related to ethics or ethical behavior. This was a ten-fold increase from 2000 when only 3% included this topic. Emphasizing the fact that the firm markets internationally is also very common with 34% of the mission statements including this practice. Another goal that is commonly stated in 2008 missions is the providing of a quality product or service that is of exceptional value to the customers. Quality and value were mentioned in 52% of the statements reviewed which was more than twice the percentage in 2000. The concept of being a global provider of a good or service also increased significantly from 15% in 2000 to 34% in 2008. Customers continue to be the most common stakeholder discussed in a mission statement with 62% of 2008 statements including this group.

The term “communities” has become a very popular word in current mission statements. In 2008, 30% of the mission statements reviewed included this term compared to only 6% in 2000. This emphasis on community demonstrates a broadening of company focus beyond those parties with whom they directly interact. It is a more universal term which could be tied to the increased emphasis on ethical behavior. No longer concerned with only their customers, employees, and business partners, these companies have extended their responsibilities to include the larger global “community” to which they belong.

The authors believe many of these trends will continue in the future. Corporate mission statements will increasingly discuss ethics and ethical practices, concern for global “communities,” the importance of customers and employees, the desire for effective international operations, the importance of social responsibility and care of our planet, and the constant striving for a quality product that provides value to the customers. Without a doubt, much is expected from one brief corporate communication called a mission statement.

Final Note: A site that the authors found to be very beneficial when performing mission statement research is located at <http://www.company-statements-slogans.info/index.htm>. This site summarizes many mission, vision, and core value statements of large corporations on an annual basis.

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APPENDIX

Mission Statements	
1. Wal-Mart:	Our mission is to help people save money so they can live better.
	Mission of Wal-mart.com (online-specific):
	Walmart.com is passionate about combining the best of two great worlds — technology and world-class retailing — to give customers a wide assortment of their favorite products, Every Day Low Prices, guaranteed satisfaction, friendly service, convenient hours (24 hours, 7 days a week) and a great online shopping experience.
2. Exxon Mobil:	Is committed to being the world’s premier petroleum and petrochemical company. To that end, we must continuously achieve superior financial and operating results while adhering to the highest standards of business conduct. These unwavering expectations provide the foundation for our commitments to those with whom we interact.
3. Chevron:	Our Company’s foundation is built on our Values, which distinguish us and guide our actions. We conduct our business in a socially responsible and ethical manner. We respect the law, support universal human rights, protect the environment, and benefit the communities where we work.

Mission Statements	
4. GM:	G.M. is a multinational corporation engaged in socially responsible operations, worldwide. It is dedicated to provide products and services of such quality that our customers will receive superior value while our employees and business partners will share in our success and our stock-holders will receive a sustained superior return on their investment.
5. ConocoPhillips:	Use our pioneering spirit to responsibly deliver energy to the world.
6. General Electric:	Core Values: Passionate - Curious - Resourceful – Accountable – Teamwork – Committed - Open – Energizing, Always With Unyielding Integrity.
7. Ford Motor:	We are a global family with a proud heritage passionately committed to providing personal mobility for people around the world.
8. Citigroup:	Our goal for Citigroup is to be the most respected global financial services company. Like any other public company, we're obligated to deliver profits and growth to our shareholders. Of equal importance is to deliver those profits and generate growth responsibly.
9. Bank of America:	Our Philosophy: We believe, very simply, that it is the actions of individuals working together that build strong communities ... and that business has an obligation to support those actions in the communities it serves.
	Core Values: Doing the right thing, Trusting and teamwork, Inclusive meritocracy, Winning, Leadership.
10. AT&T:	Mission/Vision: We aspire to be the most admired and valuable company in the world. Our goal is to enrich our customers' personal lives and to make their businesses more successful by bringing to market exciting and useful communications services, building shareholder value in the process.
	Values: Customers - We value our customers and treat them with respect, providing friendly, courteous, knowledgeable, and prompt service at all touch points. We seek and are driven by our customers' feedback.
	Integrity - We operate with unyielding integrity, obeying all laws and adhering to a stringent code of business conduct. We will not tolerate unethical business conduct by our team members.
	Performance - We continually raise our performance to exceed customer and shareholder expectations. We strive to be the best wireless company in the world.
	Teamwork - We partner with one another—respecting new viewpoints, building trust, enhancing communications, and sharing best practices to deliver world-class products and services.
	People - We value our team members and treat them with respect, providing an environment where diverse individuals can develop and are expected to perform to their full potential.

Mission Statements	
11. Berkshire Hathaway:	No mission statement found
12. J.P. Morgan Chase & Co:	Vision Statement: At JPMorgan Chase, we want to be the best financial services company in the world. Because of our great heritage and excellent platform, we believe this is within our reach.
13. American International Group:	As a global financial services organization, we have committed our resources to developing products and services that address the needs of our clients as well as promote a corporate culture that values integrity, diversity, innovation and excellence.
14. Hewlett Packard:	To provide products, services and solutions of the highest quality and deliver more value to our customers that earns their respect and loyalty.
15. International Business Machines:	At IBM, we strive to lead in the invention, development and manufacture of the industry's most advanced information technologies, including computer systems, software, storage systems and microelectronics.
	We translate these advanced technologies into value for our customers through our professional solutions, services and consulting businesses worldwide.
16. Valero Energy:	As a leading refiner and marketer, we are committed to following these guiding principles to achieve excellence in our business, our industry, and our relationships with our employees and communities.
	Commitment to Safety - The safety of our employees, our operations, and our communities is our highest priority.
	Commitment to Our Stakeholders - We are committed to delivering long-term value to all stakeholders – our employees, investors, and customers – by pursuing profitable, value-enhancing strategies with a focus on world-class operations.
	Commitment to Our Employees - Our employees are our No. 1 asset. We are committed to providing a challenging, enjoyable and rewarding work environment, which fosters creative thinking, teamwork, open communication, respect and opportunity for individual professional growth and development.
	Commitment to the Environment - We are committed to producing environmentally clean products, while striving to improve and enhance the environmental quality of our operations within our local communities.
	Commitment to our Communities - We are committed to taking a leadership role in the communities in which we live and work by providing company support and encouraging employee involvement.

Mission Statements	
17. Verizon:	As a leader in communications, Verizon's mission is to enable people and businesses to communicate with each other. We are also committed to providing full and open communication with our customers, employees and investors.
	Core Purpose: We bring the benefits of communications to everybody.
	Commitment to Service and Vision Statement: Verizon's commitment to top quality service is well known. Verizon is the pre-eminent service provider in the industry. Our legacy of customer service -- bolstered by the nation's largest and most reliable network -- is unparalleled. And, we continue to make strong progress in delivering on our promise to be the nation's best provider of quality local, data and long distance services.
18. McKesson	Our mission is to provide comprehensive pharmacy solutions that improve productivity, profitability and result in superior patient care and satisfaction.
19. Cardinal Health	Ethical Values: We consider the highest standards of personal and professional ethics as the cornerstone of trust among our customers and ourselves; We deliver on the commitments we make; We recognize our obligation to the communities where we live and work; We hold ourselves accountable not only for what we achieve but how we achieve it.
20. Goldman Sachs Group	To promote innovation and excellence in education and youth development worldwide.
	Business Principles: Our clients' interests always come first. Our experience shows that if we serve our clients well, our own success will follow.
	Our assets are our people, capital and reputation. If any of these is ever diminished, the last is the most difficult to restore. We are dedicated to complying fully with the letter and spirit of the laws, rules and ethical principles that govern us. Our continued success depends upon unswerving adherence to this standard.
21. Morgan Stanley	Vision Statement: The talent and passion of our people are critical to our success. Together, we share a common set of values rooted in integrity and excellence.
	Core Values: Excellence - Integrity - Entrepreneurial Spirit - Teamwork - Respect for Individuals & Cultures.
22. Home Depot	Mission: The Home Depot is in the home improvement business and our goal is to provide the highest level of service, the broadest selection of products and the most competitive prices.
	Core Values: Excellent customer service, Taking care of our people, Giving back, Doing the "right" thing, Creating shareholder value, Respect for all people, Entrepreneurial spirit, Building strong relationships
23. Procter & Gamble	Purpose: We will provide branded products and services of superior quality and value that improve the lives of the world's consumers. As a result, consumers will reward us with leadership sales, profit, and value creation, allowing our people, our shareholders, and the communities in which we live and work to prosper.

Mission Statements	
24. CVS Caremark	Our Mission: Above all else...our mission is to improve the lives of those we serve by making innovative and high-quality health and pharmacy services safe, affordable, and easy to access.
	Our Values: Our Customers - We are passionate and relentless in our goal to continuously innovate and improve service to our customers...every day, everywhere, and every customer.
	Our Colleagues - We work as a team. We are committed and act with integrity. We all deserve respect as well as a supportive work environment that recognizes and rewards our contributions...we accept nothing less
	Our Contributions - In the end, it's all about results – achieving our financial goals as well as giving back to the communities we serve. We hold each other accountable for all aspects of our performance...without exception.
25. United Health Group	Our mission is to help people live healthier lives. We seek to enhance the performance of the health system and improve the overall health and well-being of the people we serve and their communities.
	We work with health care professionals and other key partners to expand access to high quality health care so people get the care they need at an affordable price.
	We support the physician/patient relationship and empower people with the information, guidance and tools they need to make personal health choices and decisions.
26. Kroger	Our mission is to be a leader in the distribution and merchandising of food, health, personal care, and related consumable products and services. By achieving this objective, we will satisfy our responsibilities to shareowners, associates, customers, suppliers, and the communities we serve.
27. Boeing	Our mission is to be a leader in the distribution and merchandising of food, health, personal care, and related consumable products and services. By achieving this objective, we will satisfy our responsibilities to shareowners, associates, customers, suppliers, and the communities we serve.
28. Amerisource-Bergen	Strategies: Run healthy core businesses; Leverage strengths into new products and service; Open new frontiers; People working together as a global enterprise for aerospace leadership.
29. Costco Wholesale	To build shareholder value by delivering pharmaceutical and healthcare products, services and solutions in innovative and cost effective ways. We will realize this mission by setting the highest standards in service, reliability, safety and cost containment in our industry.
30. Merrill Lynch	At Merrill Lynch, Responsible Citizenship is more than a principle. It is a way of life.
	Through our global philanthropic efforts, we combine our financial resources and expertise with our greatest asset-our people-to build brighter futures in the communities throughout the world in which our employees and clients live and work. To achieve that goal, our charitable giving targets innovative and effective programs for children and youth that provide direct services, have potential for broad impact, and offer significant volunteer opportunities for Merrill Lynch employees.
31. Target	Our mission is to make Target the preferred shopping destination for our guests by delivering outstanding value, continuous innovation and an exceptional guest experience by consistently fulfilling our Expect More. Pay Less.® brand promise.

Mission Statements	
32. State Farm Insurance Company	State Farm's mission is to help people manage the risks of everyday life, recover from the unexpected and realize their dreams.
	We are people who make it our business to be like a good neighbor; who built a premier company by selling and keeping promises through our marketing partnership; who bring diverse talents and experiences to our work of serving the State Farm customer.
	Our success is built on a foundation of shared values -- quality service and relationships, mutual trust, integrity and financial strength.
	Our vision for the future is to be the customer's first and best choice in the products and services we provide. We will continue to be the leader in the insurance industry and we will become a leader in the financial services arena. Our customers' needs will determine our path.
	Our values will guide us.
33. WellPoint	Mission: WellPoint's objective is to improve the health of the people we serve. The WellPoint Companies provide health security by offering a choice of quality branded health and related financial services designed to meet the changing expectations of individuals, families and their sponsors throughout a lifelong relationship.
	Vision: WellPoint will transform our industry, becoming the most valued health plan through a new generation of consumer-friendly products that put individuals back in control of their health and financial future.
34. Dell	Dell Values - Vision Statement: Dell is committed to being a good neighbor in the communities we call home. We must continue to grow responsibly – protecting our natural resources and practicing sustainability in all its forms – and improve the communities where we live and work through our financial and volunteer efforts.
35. Johnson & Johnson	No mission statement; credo instead:
	We believe our first responsibility is to the doctors, nurses and patients, to mothers and fathers and all others who use our products and services. In meeting their needs everything we do must be of high quality. We must constantly strive to reduce our costs in order to maintain reasonable prices. Customers' orders must be serviced promptly and accurately. Our suppliers and distributors must have an opportunity to make a fair profit.
	We are responsible to our employees, the men and women who work with us throughout the world. Everyone must be considered as an individual. We must respect their dignity and recognize their merit. They must have a sense of security in their jobs. Compensation must be fair and adequate, and working conditions clean, orderly and safe. We must be mindful of ways to help our employees fulfill their family responsibilities. Employees must feel free to make suggestions and complaints. There must be equal opportunity for employment, development and advancement for those qualified. We must provide competent management, and their actions must be just and ethical.
	Our final responsibility is to our stockholders. Business must make a sound profit. We must experiment with new ideas. Research must be carried on, innovative programs developed and mistakes paid for. New equipment must be purchased, new facilities provided and new products launched. Reserves must be created to provide for adverse times. When we operate according to these principles, the stockholders should realize a fair return.

Mission Statements	
	We are responsible to the communities in which we live and work and to the world community as well. We must be good citizens – support good works and charities and bear our fair share of taxes. We must encourage civic improvements and better health and education. We must maintain in good order the property we are privileged to use, protecting the environment and natural resources.
36. Marathon Oil	Marathon is a company that strives to bring value and values together. We create value for our shareholders and provide quality products and services for our customers. In doing so, we act responsibly toward those who work for us, the communities in which we operate and our business partners.
37. Lehman Brothers Holdings	No mission statement found
38. Wachovia Corporation	Vision Statement: We believe Wachovia's depth of expertise, breadth of products, multiple delivery choices, and financial strength create long-term value. Our goal is to be regarded as the nation's premier financial services company by doing what's right for shareholders, customers, communities, and employees.
39. United Technologies	Quality Statement: UTC is committed to continuous improvement. We operate an extensive research program to identify innovations and technologies to enable us to relentlessly improve the quality of our product.
40. Walgreen	No mission statement; Creed instead.
	We believe in the goods we merchandise, in ourselves and in our ability to render satisfaction.
	We believe that honest goods can be sold to honest people by honest methods.
	We believe in working, not waiting; in laughing, not weeping; in boosting, not knocking; and in the pleasure of selling our products.
	We believe that we can get what we go after, and that we are not down and out until we have lost faith in ourselves.
	We believe in today and the work we are doing, in tomorrow and the work we hope to do, and in the sure reward the future holds.
41. Wells Fargo	Our product: SERVICE. Our value-added: FINANCIAL ADVICE. Our competitive advantage: OUR PEOPLE.
42. Dow Chemical	To constantly improve what is essential to human progress by mastering science and technology.
43. MetLife	All customers are "Met for Life." By balancing the efficiencies of new technologies with the personal touch of highly trained and motivated professionals, we are able to deliver solutions and services that exceed our customers' expectations. We thereby earn their loyalty.
44. Microsoft	To enable people and businesses throughout the world to realize their full potential.
45. Sears Holdings	To grow our business by providing quality products and services at great value when and where our customers want them, and by building positive, lasting relationships with our customers.

Mission Statements	
46. United Parcel Service	As the world's largest package delivery company and a leading global provider of specialized transportation and logistics services, UPS continues to develop the frontiers of logistics, supply chain management, and e-Commerce ... combining the flows of goods, information, and funds.
47. Pfizer	Mission Statement: We will become the world's most valued company to patients, customers, colleagues, investors, business partners, and the communities where we work and live.
	Our Purpose: We dedicate ourselves to humanity's quest for longer, healthier, happier lives through innovation in pharmaceutical, consumer, and animal health products.
48. Lowe's	Vision Statement: "We will provide customer-valued solutions with the best prices, products and services to make Lowe's the first choice for home improvement.
49. Time Warner	Creativity - We thrive on innovation and originality encouraging risk-taking and divergent voices.
	Customer Focus - We value our customers putting their needs and interests at the center of everything we do.
	Agility - We move quickly embracing change and seizing new opportunities.
	Teamwork - We treat one another with respect--creating value by working together within and across our businesses.
	Integrity - We rigorously uphold editorial independence and artistic expression earning the trust of our readers, viewers, listeners, members and subscribers.
	Diversity - We attract and develop the world's best talent seeking to include the broadest range of people and perspectives.
	Responsibility - We work to improve our communities taking pride in serving the public interest as well as the interests of our shareholders.
50. Caterpillar	Caterpillar will be the leader in providing the best value in machines, engines, and support services for customers dedicated to building the world's infrastructure and developing and transporting its resources. We provide the best value to customers.
	Caterpillar people will increase shareholder value by aggressively pursuing growth and profit opportunities that leverage our engineering, manufacturing, distribution, information management and financial services expertise. We grow profitably.
	Caterpillar will provide its worldwide workforce with an environment that stimulates diversity, innovation, teamwork, continuous learning and improvement and rewards individual performance. We develop and reward people.
	Caterpillar is dedicated to improving the quality of life while sustaining the quality of our earth. We encourage social responsibility.

EFFECT OF JOB LEVEL ON THE PERFORMANCE OF HUMAN CAPITAL ATTAINMENT: AN EXPLORATORY ANALYSIS

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ABSTRACT

Human capital is a significant factor in enhancing individuals' career success. Career performance disparities are primarily due to the differences in their human capitals. Thus, earnings variations between job levels are partly due to the differences in investments in human capital. However, the differential effect of human capital is disproportionate at different job levels. Overall, individuals at higher job levels enjoy greater rate of return on their human capital. Therefore, income disparities due to job levels may also be the result of differences in performance efficiency. Accordingly, this paper examines the deviation in performance efficiency attributable to job-level that go beyond basic human capital. Logistic regression analysis shows that there is a significant predictive power of job-level on the performance efficiency after controlling for gender, age, and education. Specifically, results indicate that individuals at executive level have higher likelihood to succeed than others. Moreover, our analysis reveals that the likelihood of an executive level individual to perform efficiently is twice as much as others. Findings from this study have important implications not only on the human capital investment, but also for business organizations' executive selection process.

INTRODUCTION

In recent years, researchers have devoted much of their effort in identifying factors that determine earnings differentials (Moore, Newman, and Terrell, 2007; Heitmueller and Inglis, 2007; Lauermann, 2006; Gottschalk, 1997; Hartog & Vriend, 1990; Hartog, 1988; Autor, Katz, and Krueger, 1998; Lord and Falk, 1980). Many factors have been cited (Shen & Deng, 2008; Buddeberg-Fischer, Stamm, Buddeberg, & Klaghofer, 2008; Ng, Eby, Sorensen & Feldman, 2005; Krueger, 1993; Judge & Bretz, 1994; Petersen and Saporta, 2004; Doms, Dunne, & Troske, 1997) as sources of earnings variations as a measure of career success; among these, human capital investment (Bassi & McMurrer, 2007; Carrera, Carmona, & Gutiérrez, 2008) plays a very significant role. Becker (1962, 1975) suggested that inequality in income distribution may be explained by the investment in human capital. Human capital theorists' argument is that investment in education and training are important to improve individuals' earnings and thus enhance career success. Political economist Adam Smith believed that ultimate source of a nation's wealth is the quality of its labor force and the disparities in workers' earnings are due to the differences in their human capital investments. Therefore, the earnings disparities between job levels may be due to the differences in human capital

investments. However, the differential effect of human capital may not be same at various job levels even with comparable human capital accumulation. In general, individuals at higher job level receive much greater return (Chang and Huang, 2005) on their investments in human capital. Therefore, the concern of income differential due to job level, tie in closely through the performance efficiency associated with the job-level. If this is the case, then we can postulate a hypothesis that comparatively individuals at higher job level perform more efficiently to attain human capital (such as, acquiring further education, certification, training, etc.) than others. In turn, this accelerates their career success and thrust them further upward in their career path and creates a domino effect. This specific nature of efficiency in performance exists primarily at the higher job level that goes beyond basic human capital and may be a result of managerial role motivation theory (Berman & Miner, 1985).

In this study, we propose a hypothetical model to examine the effect of various determinants on the attainment of human capital as a measure of performance efficiency. Specifically, we observe the differential effect due to job-level on the implementation of human capital attainment. This research primarily differs from other studies in that we are interested in finding if human capital is acquired efficiently by individuals at higher job level. Previous studies have tested the effect of human capital on earnings or other career success measures. Our objective is to examine, if performance efficiency is dependent on career success (i.e., job-level) rather than human capital itself. To our knowledge, no research has been done to test the effect of job-level on the performance efficiency. That is, if an individual is successful in their career and achieves higher job level, will that individual be more efficient by exhibiting upsurge in performance.

Chartered Property and Casualty Underwriter (CPCU)

Present study is based on data from the CPCU certified individuals. The system of CPCU (Chartered Property and Casualty Underwriter) professional examinations and designation is the most recognized system in the area of property/casualty insurance, which provides comprehensive integrated, skill and knowledge set in all areas of property/casualty insurance. As with professional designations in other fields, such as the CPA in accounting, the CPCU is awarded to individuals willing to go beyond the normal requirements of their profession. The American Institute for Chartered Property and Casualty Underwriters (AICPCU) confers the CPCU designation. The CPCU designation is earned through the successful completion of eight college-level courses with national essay examinations, an experience requirement, and an agreement to be bound by ethical standards. Curriculum includes risk management, insurance products, insurance operations, financial analysis, and legal and regulatory environment of insurance. Each course is accredited by the American Council on Education (ACE) for at least 3 college undergraduate credits and some for 3 graduate credits. The certification helps practitioners to make sound, ethical decisions in the complex environment of property and casualty insurance. An eight course program is tantamount to completing about 24 hours of college credits (per ACE).

Property/casualty insurance industry in the United States operates in a regulated environment, and within the evolving American culture, consumer markets, and labor force. Thus factors such as, overall educational trends, demographic, litigation, and consumerism influence the insurance industry. Therefore, the need for educated professionals, and ultimately the desire and ability of insurance industry individuals to seek and attain the CPCU designation for diverse knowledge to keep up with the dynamic change in the environment requires further investment to acquire additional human capital.

This paper thus, examines the effect of job level on the performance of CPCU certification a source of human capital. This study's purpose is to determine if the upper job level individuals are more efficient in attaining the CPCU designation. In particular, we examine the effect of job level on two different (faster and slower) categories of completion time (total time for completing the certification program) to observe the performance differential. We control for the age, gender and level of education. After controlling for demographic factors, we find that higher job-level (executive) is instrumental in enhancing the performance. This suggests that individuals at the executive level are more efficient in acquiring human capital. Our results provide solid support of positive contribution by higher job level individuals in performance efficiency. Therefore, our results contribute to the literature by documenting the constructive externalities of job-level differential, and associating systematic efficiency of executives' (job-level) performance with the success outcome.

METHODOLOGIES

A response variable "completion time" is initially created from the length of time that it takes to complete the certification program, sometimes known as "travel time" in the literature. This is further categorized into "success" and "failure" dichotomous variable as an outcome measurement. Success is identified as those 25% with lower completion time (i.e., below first quartile) and failure is associated with those 25% that has higher completion time (i.e., above third quartile). An individual is categorized as efficient in attaining human capital if the person falls in the "success" group. Therefore, if an individual is at higher job level (such as, executive) and also positively associated with "success" then we can assert that the higher job level induces a setting for efficient attainment of human capital.

Our sample period consists of about 3466 completed individuals (i.e., number of individuals who completed the program) record of data. Table-1 presents summary statistics of age, with respect to gender and education; and Table-2 presents percentage distribution of success outcomes by gender and education. Logistic regression analysis was applied to assess the significance of job-level on the performance outcome. Job-level is a categorical variable and is incorporated in the model as a dummy variable to assess the differential effect of human capital attainment. Job levels are classification of positions in an organization occupied by individuals who perform similar activities and are confronted with similar decision making problems. Therefore, individuals at different job levels will most likely exhibit heterogeneity in their performance. Rice and Shook (1990) reported that individuals at different job levels use different communication structure. Individuals at higher job levels are faced with more challenging tasks in their course of action (Hannaway, 1985). In addition to this primary predictor variable, our analysis also included three other independent variables: gender, age, and level of education as control variables. Gender is a binary variable, coded "1" for male and "0" for female. A number of prior studies have investigated the impact of gender as a predictor variable on academic performance. Two earlier studies found that female students performed better than males in accounting area (Mutchler, Turner, & Williams, 1987; Lipe, 1989), while others found males outperforming females in finance (Borde, Byrd, & Modani, 1996), Economics (Dale & Crawford, 2000; Heath, 1989), and in professional certification (Choudhury, Jones, Gamage, & Ostaszewski, 2008; Brahmasrene & Whitten, 2001; Zook & Bremser, 1982). Several studies in the computer arena found that, compared to male, females tend to display lower computer aptitude (Rozell & Gardner, 1999; Smith & Necessary, 1996; Williams, Ogletree, Woodburn, & Raffeld, 1993) and higher level of apprehension

(Bozionelos1996; Igbaria & Chakrabarti 1990). Since, most of the prior researches indicate that an individual's gender may play a role in producing differential results; gender was controlled for in our research.

TABLE 1: Summary Statistics of Starting Age							
By Gender and Education							
EDUCATION LEVEL	SUCCESS OUTCOME						
	0			1			ALL
	GENDER		ALL	GENDER		ALL	
	F	M		F	M		
1 Mean	38.64	30.06	37.47	31.06	37.98	33.83	35.99
Std	9.34	5.93	9.34	6.39	9.09	8.07	8.92
2 Mean	38.05	40.55	38.59	35.31	34.56	34.81	37.30
Std	8.85	6.51	8.39	7.18	6.22	6.41	7.93
3 Mean	30.16	30.08	30.12	30.12	30.23	30.19	30.15
Std	7.27	6.97	7.10	7.18	6.85	6.96	7.04
4 Mean	30.83	35.07	33.40	32.64	34.07	33.69	33.58
Std	7.24	8.13	8.03	7.01	7.29	7.22	7.52
5 Mean	33.55	40.54	37.95	34.00	35.98	35.43	36.40
Std	3.51	7.90	7.39	3.91	6.13	5.63	6.43
6 Mean	38.21	43.02	40.62	30.65	42.46	40.99	40.86
Std	2.83	4.42	4.11	0.00	11.13	11.12	9.13
ALL Mean	31.60	31.64	31.62	31.09	32.09	31.77	31.69
Std	7.98	7.79	7.88	7.07	7.42	7.32	7.61

Note:
Success = 0 or 1; success=0 for candidates who took longer time to complete the program (top 25%, i.e., above Q3) and success=1 for candidates who took shorter time to complete the program (bottom 25%, i.e., below Q1).
Education (Level of Education):
 High School=1, Associate=2, Bachelor=3, Masters=4, Law=5, Doctorate=6.

Another factor that we have included in our study is the level of education to control for background knowledge. Vermunt (2005) observed that, education and learning patterns influence individuals' academic performance. This in turn may affect performance and efficiency of obtaining human capital. Many studies have found grade point average (a measure for intelligence) to be a significant factor for academic performance (Bagamery, Lasik, & Nixon, 2005). These include among others, in MBA (Gropper, 2007), accounting (Doran, Bouillon, & Smith, 1991; Eskew & Faley, 1988; Garcia & Jenkins, 2003), marketing (Borde, 1998), and economics (Bellico, 1974; Cohn, 1972; Dale & Crawford, 2000). In this study, the levels of education differ greatly among the individuals and because their performance on success may be

influenced by their level of education, we therefore include education level in our analysis. Education is an ordinal (hierarchical) categorical variable and therefore, kept in its original format ranging from high school diploma to doctorate.

To observe the relationship between the response variable and job-level, we perform two separate analyses. First, we use basic summary statistics (Table 1) and percentage distributions (Table 2) to observe whether the gender difference or education level exhibit any systematic change. Then, we examine pair-wise correlations to assess the direction of association between variables. Second, we regress the success factor (dummy variable “1” or “0”, see above for detail) on age (AGE), gender (GENDER), education level (EDUCATION), and job-level (indicator variable). Age is a continuous independent variable. In general, it is assumed that there is a difference between younger and older people in the performance of their human capital attainment. In addition, this factor also reflects most of the experience base knowledge differences. These differences may also relate to individuals’ job-level and the experience that they bring with them to the human capital investment environment. Therefore, it is important to use this factor as a control variable to isolate and extract the differential effect of job-level on the attainment of human capital.

Statistical analysis was performed using logistic regression that utilizes maximum likelihood estimation method and the analysis was run using SAS software (SAS/STAT User's Guide, 1993) on these following predictor variables; age, gender, education level, and job-level. Job-level is used to measure the differential effect of job categories, in particular to determine if executives are more efficient than others when it comes to human capital attainment. This measure is designed to test the hypothesis that individuals at higher job level (specifically executives) are more efficient in the process of executing human capital investment.

In logistic regression, the dependent variable is a *logit*, which is the natural log of the odds, that is,

$$\log(\text{odds}) = \text{logit}(P) = \ln\left(\frac{P}{1-P}\right) \dots\dots\dots (1).$$

So a logit is a log of odds and odds are a function of P, the probability of “success.” Where “success” is coded “1” and failure is “0”, such that, Prob. (Y=1) = P and Prob. (Y=0) = 1-P. In logistic regression, we find the *logit mean response* as,

$$\text{logit}(P) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k, \dots\dots\dots (2),$$

where X_i is any predictor variable. Then the log-likelihood function can be expressed as,

$$\log_e L(\beta) = \sum_{i=1}^n Y_i (\beta X_i) - \sum_{i=1}^n \log_e [1 + \exp(\beta X_i)], \dots\dots\dots (3),$$

$$\text{where } \beta X_i = \beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \dots + \beta_k X_{ik}.$$

More discussions on the likelihood function can be found in Neter et. al. (1996); Choudhury, Hubata and St. Louis (1999); and Strauss (1992).

Table 2: Percentage Distribution of Success						
By Gender and Education						
EDUCATION	Success Outcome (in %)					
	0			1		
	GENDER		ALL	GENDER		ALL
	F	M		F	M	
1	1.30	0.21	1.51	0.62	0.41	1.03
2	2.47	0.68	3.15	0.55	1.10	1.64
3	17.74	20.75	38.49	10.00	19.32	29.32
4	2.81	4.38	7.19	3.22	8.84	12.05
5	0.68	1.16	1.85	0.82	2.12	2.95
6	0.14	0.14	0.27	0.07	0.48	0.55
ALL	25.14	27.33	52.47	15.27	32.26	47.53

RESULTS

Table 1 reports the descriptive statistics of starting age by response variable and various predictor variables. Similar average starting age (about 31 years) across gender and success factor for all education levels combined is observed (see Table 1). This suggests that there is no apparent difference due to age on the performance outcome. Relatively speaking, average starting age decreases as the level of education increases, owing to the time one needs to spend in obtaining the higher education level (see Table 1). There is a great degree of variation in percentage distributions (see Table-2) between genders when considering performance outcome for the “efficient group” (those who obtained the certification faster). More specifically, percentage of males in the efficient group is twice as much as females (32.26% vs. 15.27%). Gender difference is not quite visible when considering the “inefficient group” (i.e., those who took longer time to obtain the certification) only. Shown in Table 3 are simple pair-wise correlation coefficients among the various factors. We found that gender and shorter completion time (success) are positively associated at the 0.02 significance level. Several studies have suggested that gender differences exist in different learning environments. It is possible that gender-bound differences exert influence in the way in which males and females are inclined to learn (Choudhury, Jones, Gamage, & Ostaszewski, 2008; Gallos, 1995; Gilligan, 1982; Richardson, 2000).

Table 3: Correlation Matrix									
FACTORS	SUCCESS	AGE	GENDER	EDUC	EXEC	M_MNG	S_MNG	PROF	ADMN
SUCCESS	1.00	0.02	0.17	0.15	0.08	-0.02	-0.01	-0.16	-0.04
AGE	0.02	1.00	0.00	0.07	0.07	0.05	0.08	-0.12	0.03

Table 3: Correlation Matrix

FACTORS	SUCCESS	AGE	GENDER	EDUC	EXEC	M_MNG	S_MNG	PROF	ADMN
GENDER	0.17	0.00	1.00	0.15	0.07	0.03	0.03	-0.05	-0.06
EDUC	0.15	0.07	0.15	1.00	0.08	0.06	0.01	-0.05	-0.10
EXEC	0.08	0.07	0.07	0.08	1.00	-0.05	-0.01	-0.11	-0.02
M_MNG	-0.02	0.05	0.03	0.06	-0.05	1.00	-0.03	-0.26	-0.05
S_MNG	-0.01	0.08	0.03	0.01	-0.01	-0.03	1.00	-0.07	-0.01
PROF	-0.16	-0.12	-0.05	-0.05	-0.11	-0.26	-0.07	1.00	-0.11
ADMN	-0.04	0.03	-0.06	-0.10	-0.02	-0.05	-0.01	-0.11	1.00

Note: Job levels are introduced as indicator variables: EXEC= Executive, M_MNG=Middle Management, S_MNG=Senior Management, PROF=Professionals, ADMN=Administrative.

Education level is found to be positively associated with shorter completion time (note that, even though simple-correlation is statistically meaningless for these binary variables, these correlations are only an indication of bi-directional association in a simple linear regression setting). This result is consistent with the perception that high-achieving individuals make greater effort in acquiring the necessary knowledge and skill; as a result they may be more competitive in their performance of human capital attainment. Only job category “executive level” seems to be positively associated with the efficient performance. This is consistent with our hypothesis that individuals at higher job level are highly motivated to invest in human capital. As a result, these individuals perform more efficiently in attaining the human capital, such as, CPCU certification in this study.

Table 4: Logistic Regression [Full Model]**LOGISTIC Procedure****Testing Global Null Hypothesis: BETA=0**

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	94.4251	8	<.0001
Score	91.3669	8	<.0001
Wald	85.5866	8	<.0001

Table 4: Logistic Regression [Full Model]					
LOGISTIC Procedure					
Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-1.0346	0.3389	9.3216	0.0023
AGE	1	-0.00722	0.00735	0.9654	0.3258
GENDER	1	0.5520	0.1124	24.1279	<.0001
EDUCATION	1	0.3461	0.0775	19.9179	<.0001
EXEC	1	0.6589	0.3988	2.7301	0.0985
S_MNG	1	-0.5356	0.6039	0.7868	0.3751
M_MNG	1	-0.3835	0.1739	4.8627	0.0274
PROF	1	-0.5993	0.1210	24.5507	<.0001
ADMN	1	-0.5045	0.3966	1.6187	0.2033
Odds Ratio Estimates					
Effect	Point Estimate	95% Wald Confidence Limits			
		LCL	UCL		
AGE	0.993	0.979	1.007		
GENDER	1.737	1.393	2.165		
EDUCATION	1.413	1.214	1.645		
EXEC	1.933	0.885	4.223		
S_MNG	0.585	0.179	1.912		
M_MNG	0.681	0.485	0.958		
PROF	0.549	0.433	0.696		
ADMN	0.604	0.278	1.313		

In Table 4, we report the results of the logistic regression analysis (full model). The proposed model appeared to fit well in estimating success outcomes (a binary response variable). All three reported global χ^2 test statistics 94.42, 91.37, 85.59 are highly statistically significant at a significance level <0.0001 . Results indicate that job-level is a significant predictor of individual's performance measure in attaining human capital as measured by CPCU certification. However, with categorical variables, the effect of a particular category must be measured in comparison with other categories involved. This means that compared to job level of senior management, middle management, professionals, or administrative; executive job level is associated with the increased log odds of success in human capital attainment at significance level of 0.09. Therefore, the job-level, specifically the executive level plays an important role when efficiency is desirable

in attaining human capital. Although, two other job levels, namely middle management and professionals are statistically significant (negative estimated coefficients implies odds are less than one) their odds of success in human capital attainment is opposite to those of executives. Moreover, the odds of decreasing success for these job categories stay below one even at the upper 95% Wald confidence limits (see Table-4).

We have also found gender to be a significant factor in this empirical analysis. Specifically, the result indicates that an individual's gender may contribute to the efficiency aspect of human capital attainment and is consistent with other previous studies. Severiens and Ten Dam (1997) reported similar gender effect in undirected learning. The CPCU is primarily a self-study program, nearly two-thirds of the students reported that they self-study. Although self-study could potentially be directed, it is primarily an undirected learning. Another explanation is competing time demand for different gender, which could also account for the difference. Considering that the average age of a CPCU enrollee is 31 years, competing time for family care could be a factor and time spent on family care is well-documented (McGrattan & Rogerson, 2004; Bianchi, 2000). Age is not found to be statistically significant. Therefore, there is no evidence to support that age influences performance. Although, level of education is statistically significant, the magnitude of the odds-ratio does not contribute much to the efficiency of success outcome.

Table 5: Logistic Regression [Stepwise Model]					
LOGISTIC Procedure					
Testing Global Null Hypothesis: BETA=0					
Test	Chi-Square	DF	Pr > ChiSq		
Likelihood Ratio	91.6832	5	<.0001		
Score	88.8035	5	<.0001		
Wald	83.2802	5	<.0001		
Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-1.3128	0.2602	25.4548	<.0001
GENDER	1	0.5610	0.1118	25.1773	<.0001
EDUCATION	1	0.3459	0.0767	20.3466	<.0001
EXEC	1	0.6914	0.3984	3.0107	0.0827
M_MNG	1	-0.3502	0.1724	4.1264	0.0422
PROF	1	-0.5454	0.1177	21.4724	<.0001

Table 5: Logistic Regression [Stepwise Model]			
LOGISTIC Procedure			
Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
		LCL	UCL
GENDER	1.752	1.408	2.182
EDUCATION	1.413	1.216	1.642
EXEC	1.996	0.914	4.359
M_MNG	0.705	0.503	0.988
PROF	0.580	0.460	0.730

We applied forward, backward, and mixed stepwise methods to select a logistic regression model through Wald statistic, the likelihood ratio statistic, and the Score statistic using significance level as a criterion to add variables into the model or delete variables from the model. All three types of stepwise methods yield the same result, as shown in Table 5. Moreover, the model resulting from the stepwise selection provides the same conclusion that gender, education level, and executive level are significant factors in increasing the likelihood of success. These variables have direct impact on the log odds of success, as indicated by the positive coefficients that resulted in odds of success greater than one. More specifically, one can assert that likelihood of an executive to perform efficiently is twice as much as others. In addition, odds of executives' success can be as high as four times (4.359 at the upper 95% confidence, see Table 5). These findings are consistent with the hypothesis that performance of top executives combined with higher education level generates a stimulus environment for an efficient accomplishment. Therefore, the result of this study suggests that higher job level (specifically executive level) induce a system for an efficient human capital attainment.

DISCUSSIONS AND CONCLUSIONS

Performance efficiency of human capital attainment due to job-level differential is examined in this research. Logistic regression analysis found the predictive power of the job-level on the performance outcome. Despite the differences among individuals education level, performance efficiency is impacted by the job-level. Thus, our estimated logistic regression model indicates that executive job level is a significant factor in increasing the likelihood of success. Although, individuals with higher level of education, as measured by their highest degree earned, has higher odds of efficiently achieving human capital; gender plays a role in the implementation phase of human capital investment. Findings from this study have important implications on the implementation of human capital investment.

This study helps to fill this gap in our knowledge about the differential performance efficiency due to job-level. We examined the determinants of performance in human capital attainment among CPCU certified individuals. Our exploration to the effect of job-level on the human capital attainment resulted in efficient performance by executives. Studies of this kind, the question of causality inevitably arises. Possible

causal explanations may fall largely into two categories: a) differences in information processing and b) motivational differences. When new information is presented to learners, it is processed in a severely limited working memory. Overcoming these limitations is enabled by the use of schemas, stored in long-term memory, to process information more efficiently (Kalyuga, Ayres, Chandler, & Sweller, 2003). These schemas may be formed differently in executives. One possible explanation is that, executives are exposed to a broad array of information versus a narrower, but deeper, flow of information for lower level practitioners. Thus, executives may have the advantage of elevated level of “initial learning” because of their broader occupational exposure. This “initial learning”, which occurs from their broader exposure, facilitates executives’ performance efficiency via “schema”, or “anchor” where new information can be placed (Bransford et. al., 1982; Mandler & Orlich, 1993; Barnett & Ceci, 2002). Executives are also more competitive in an occupational sense, more desirous of power, and more motivated to stand out from the group. This strong motivational desire could explain executives’ superior performance in acquiring human capital. Therefore, if performance serves to develop motivation, then motivation may assist to cultivate efficiency. Although this research is described as a test of theory, the theory itself has considerable relevance for practice. For example, if a business organization is interested in selecting individuals with executive level potential, then the use of performance measure recommends itself. Therefore, it is imperative that business organizations include performance efficiency criteria in their descriptions for executives. This finding would be especially important in post-modern times where corporations have continued to seek efficiency.

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THE INFLUENCE OF ORGANIZATIONAL CAPACITY AND ENVIRONMENTAL DYNAMISM ON THE FIRST MOVE–PERFORMANCE RELATIONSHIP

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ABSTRACT

The success of first moves is based on contingencies. Thus, we describe a multidimensional contingency variable, organizational capacity, and argue that it aids the firm in creating advantages from a first move. We also discuss environmental dynamism's role as it relates to this process. We rely on the resource-based view of the firm to help build our model of first moves and develop corresponding propositions. We conclude with a discussion of the implications for scholars and managers.

INTRODUCTION

A central concern of strategic management research involves understanding those factors that drive superior firm performance (Hoskisson, Hitt, Wan, & Yiu, 1999). One specific area of focus concerns the timing of market entry and its impact on firm performance (e.g. Kerin, Varadarajan, & Peterson, 1992; Lieberman & Montgomery, 1998). Many scholars have suggested that firms that adopt a “first-mover” strategy may be able to secure sustainable, positive economic outcomes (Lieberman & Montgomery, 1998). In the strategic management literature, the term “first moves” (a.k.a. “pioneering moves”) commonly refers to organizational efforts to create new markets through the introduction of new products or services, though it can also refer to entry into new markets, the development and implementation of new work processes (Kerin et al., 1992), and the implementation of new business models (e.g., Jackson, 2008). Thus, the willingness to adopt a pioneering attitude rather than a wait-and-see, follower’s perspective can be a vital part of a firm’s overall competitive strategy.

Although there is evidence pro and contra regarding a “first-mover advantage,” many researchers believe that advantages are more likely to occur only under certain conditions (e.g. Lieberman & Montgomery, 1998). For example, researchers have found evidence that the firm’s internal characteristics play a key role in the extent to which the firm realizes first-mover advantages. Though some researchers do highlight the importance of specific internal characteristics and first moves (e.g. Lilien & Yoon, 1990; Szymanski, Troy, & Bharadwaj, 1995), the exact nature of the relationship between internal organizational characteristics, first moves, and firm performance is unclear (Lieberman & Montgomery, 1998; VanderWerf & Mahon, 1997).

This is an important gap in the literature and its illustration represents one of our main goals for this paper. Specifically, we will try to provide conceptual clarification on the relationship between internal organizational characteristics - here, we specifically examine components of organizational capacity - and their impact on the first move–firm performance relationship. External environmental contingencies also have been shown to play a role in the first move—performance relationship (e.g. Covin, Slevin, & Heeley, 2000; McNamara, Haleblan, & Dykes, 2008). Thus, another goal is to discuss organizational capacity's role under differing environmental conditions; specifically under dynamic vs. stable environments. A final goal is to present a comprehensive model of the first move–firm performance relationship. This model not only synthesizes current first-mover research, but also provides the foundation for a series of propositions designed to provide insight into the conditions under which entry timing will positively impact firm performance. In order to accomplish our goals, we employ the resource-based view (RBV) paradigm, which, in the strategic management literature, is a dominant approach to understanding firm performance (Barney, Wright, & Ketchen, 2001; Crook, Ketchen, Combs, & Todd, 2008; Hoopes, Madsen, & Walker, 2003). Indeed, research has been initiated linking first moves and the resource-based view (e.g., Finney, Lueg, & Campbell 2008, Lieberman & Montgomery, 1998, Ruiz-Ortega & Garcia-Villaverde, 2008).

According to scholars of the RBV, the firm is a bundle or network of resources and capabilities linked together to create value (Black & Boal, 1994; Conner, 1991; Madhok, 1996). The main premise of the RBV is that a primary precursor to a firm's superior performance is its unique, valuable, inimitable resources (Barney, 1991). Successful firms are able to leverage their resources to outmaneuver their opponents. Further, it is important to consider resources from a dynamic perspective (Reed, Srinivasan, & Doty, 2009). Thus, a key concern of scholars of the RBV is how these resources are acquired or built (e.g., Dierickx & Cool, 1989). As suggested by Lieberman and Montgomery (1998), sources of advantage resulting from first moves are indeed resources of the firm. Accordingly, in our analysis we discuss how such resources (i.e., sources of advantage) are generated from a firm's first move with the support of the firm's organizational capacity. Additionally, we discuss how environmental dynamism affects the building of and the performance gained from first-mover resources.

This paper is structured in the following manner. We begin with a discussion of our model and an analysis of its constituent parts. Our main focus is on the effect of organizational capacity, the effect of environmental dynamism, and grounding the model further in the RBV. Accordingly, we develop propositions for the relationships in our model concerning these areas. We conclude the paper with a discussion of the implications of this research for both strategic management scholars and practicing managers.

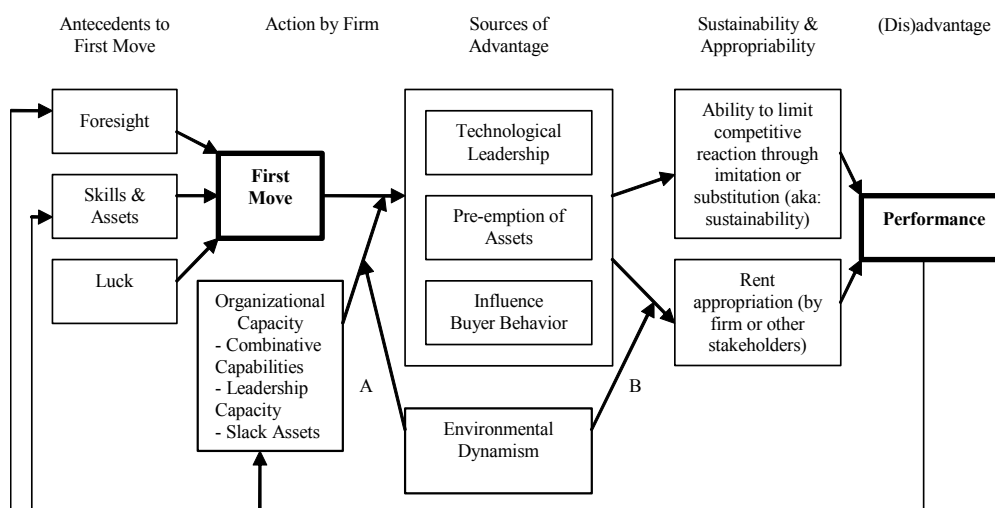
THEORETICAL MODEL

Success, in terms of the resource-based view upon which we draw, is seen as a competitive advantage for a firm. We take the approach of many studies, viewing competitive advantage as being nearly "synonymous with performance" (Crook et al., 2008, p. 1144). In particular, in this model we view the success of a first move as the firm performing such that it is ultimately providing (monetary) value for its owners. This success, or performance advantage, may be evidenced in ways such as increases in profitability, and also, in publicly traded firms, by increases in the value of the firm's stock. In order to better understand how moving first helps firms gain such performance advantages, we propose the following model, Figure 1. This

theoretical model is largely based on the seminal work of Lieberman and Montgomery (1988; 1998). There are, however, several key differences between their work and the model introduced in this paper.

First, Lieberman and Montgomery's (1988) model does not distinguish between firm characteristics as antecedents to, versus contingency variables of, the first move—performance relationship, whereas the model we present emphasizes the moderating role of organizational capacity on the first move—performance relationship and how it can differ from the antecedents to first moves. We also attempt to more clearly examine which firm characteristics are important (i.e., various dimensions of organizational capacity). Additionally, in the present model the environment plays a more specific role than in that of Lieberman and Montgomery (1988). Finally, we incorporate the nature of sources of advantage as resources, as is discussed in Lieberman and Montgomery's 1998 extension of their previous work. Therefore, while owing considerable intellectual debt to the pioneering work of Lieberman and Montgomery (1988, 1998), we extend their work here by developing a more complete, further specified, and testable model of the performance effects of first moves grounded in the resource-based view.

Figure 1: Theoretical Model of the First Move—Performance Relationship



ANTECEDENTS

First moves are uncertain and costly (Urban, Carter, Gaskin & Mucha, 1986), and much remains to be learned about the determinants of such moves. Lieberman and Montgomery (1988) contend that environmental change leads to an asymmetry among competitors. And, that a first-moving firm will have an opportunity because of their foresight, assets, or luck (these three are not necessarily independent, but we model it as such for simplicity's sake). Thus, given an opportunity in the environment, the key forces driving a first move are a) the ability to recognize and incorporate the potential advantages, b) the skills and assets necessary to leverage the opportunity, and/or c) luck. We show these as antecedents to a first move in Figure 1.

SOURCES OF ADVANTAGE

As indicated in the model, a critical outcome of the first move is the opportunity for the firm to build sources of advantage that will ultimately affect performance. Specifically, and in terms of the model presented here, there are three different sources of advantage (Lieberman & Montgomery, 1988) expected to flow from the first move. These are technological leadership - an indication of the first mover's knowledge and expertise of its business practices including that developed from research, development, and other relevant activities (Cho, Kim, & Rhee., 1998); preemption of assets – the initial opportunity to gain or preempt important assets such as supplies and positioning space (Kerin et al., 1992; Lieberman & Montgomery, 1988); and influence over buyer behavior – the initial impact as to what consumers see and learn (Dos Santos & Peffers, 1995).

In articulating a link between the first-mover advantage literature and the resource-based view of the firm (RBV), Lieberman and Montgomery contend that sources of advantage are, in essence “resources” of the firm (1998). Thus, every study of first-mover advantage is really a study about resource building and accumulation (Lieberman & Montgomery, 1998). Consistent with this assertion, subsequent research agrees that early moves can result in a firm building resources (e.g. Carow, Heron, & Saxton, 2004). For instance, in his work on the acquisition of strategic resources, Andersen (2007) points out that, “by acting ahead of its competitors, a company can develop a strategic resource in terms of established relationships with its customers” (p. 667). Following suit, we adopt the position that these “sources of advantage” can be subject to a resource-based analysis. Such an analysis is the basis for the next portion of the model.

SUSTAINABILITY AND APPROPRIABILITY

According to scholars of the RBV, there are two main criteria that determine whether or not a resource (i.e., “source of advantage”) is likely to lead to superior firm performance. Grant (1991) posits 1) that sources of advantage must be sustainable (e.g. Barney, 1991) and 2) that the firm must be able to appropriate rents from them (e.g. Coff, 1999). To the extent that the resource under question has both of these characteristics, the likelihood of superior firm performance is increased. As indicated in Figure 1, we expect both of these variables to mediate the relationship between the sources of advantage and firm performance.

Sustainability

One primary driver of sustainability of value from sources of advantage is how difficult the source of advantage is to imitate (Grant, 1991). If others can easily imitate the source of advantage, then imitators will also gain rents, bringing the rent generating ability of the source to a normal, rather than a positive abnormal (as is the case when an advantage exists) level. Thus, resources leveraged by first moves that lead to sustainable sources of advantage will be more likely to lead to improved performance for the first-moving firm than those that lead to less sustainable sources of advantage. Accordingly, we propose

Proposition 1a: The sustainability of sources of advantage partially mediates the sources of advantage—performance relationship.

Appropriability

It has been noted that stakeholders of the company may appropriate rents from sources of advantage before they are reflected in the firm's profitability, thus reducing the magnitude of the first move—performance relationship (Coff, 1999; Ray, Barney, & Muhanna, 2004). The bargaining power of the stakeholder will determine the rents that they can appropriate. For example, consider the case of a disgruntled high-level executive who, in the aftermath of a first move initiative, feels they can squeeze the firm for greater financial compensation for their role in the move. Their demand for higher pay has the effect of appropriating rent from the firm (Coff, 1997). Accordingly, those sources of advantage from which a firm can appropriate rents will be more likely to lead to higher performance than those from which rents may be seized by another stakeholder. As such,

Proposition 1b: The appropriability of rents from sources of advantage partially mediates the sources of advantage—performance relationship.

ORGANIZATIONAL CAPACITY

The next part of the model involves the role of organizational capacity. We argue that organizational capacity is consistent with both the ideas of first-mover advantages and the resource-based view. First, we describe how a contingency model of first moves is consistent with the building of resources. Next, we discuss the components of organizational capacity - here, a contingency variable - and show how they relate to current theory on building resources.

Several different analyses of the first-mover literature have concluded that the effects of a first move on performance are likely better modeled as a contingency effect (e.g. Kerin et al., 1992; Lieberman & Montgomery, 1998; VanderWerf & Mahon, 1997). Coupling this idea with the aforementioned view that first moves can lead to sources of advantage (i.e., resources of the firm), is consistent with Lieberman and Montgomery's (1998) inquiry "under what condition can early entry enhance the firm's accumulation of superior resources and capabilities?" (p. 1112). This is an essential question not only for examining the effects of first moves, but also for better understanding of the resource-based view of the firm. Indeed, the dynamic nature of how firms obtain resources is an important, though understudied, question (Helfat & Peteraf, 2003; Priem & Butler, 2001). Inasmuch as sources of advantage are resources of the firm, examination here of first moves as building sources of advantage represents a specific instance of resource acquisition/building. Such resource innovation, building new resources from existing resources, can be one of the keys to the emergence of profits in firms (Becerra, 2008).

We suggest that the level of the organizational capacity of a first mover represents, in the words of Lieberman and Montgomery (1998), the "condition" that can create sources of advantage. The term organizational capacity has been used in the literature to help describe the ability of a firm to adapt and change (e.g. Bacot, Mukherjee, Hartman, & Lundberg, 1992; Chakravarthy, 1982; White & Linden, 2002; Hinings & Greenwood, 1989). Inasmuch as a first move represents a new and risky situation for the firm, it can disrupt the status quo and act as a change agent. To the extent that organizational capacity helps the organization adapt to such change, it is likely to positively affect the firm's ability to accumulate and build resources (in our model, sources of advantage) stemming from a first move. As can be seen in Figure 1, we view organizational capacity as comprised of three dimensions: combinative capabilities, leadership, and

slack assets. These dimensions are derived from Hinings and Greenwood's (1989) and Chakravarthy's (1982) influential works on organizational capacity. Note also that the dimensions are consistent with Helfat and Peteraf's (2003) resource-based, 'capability lifecycles' (CLCs) model.

Here, the founding stage of the CLC model is relevant in that it lays out how resources are built, as we are concerned with first moves creating resources/sources of advantage. The CLC argues that two conditions must exist for the founding stage (Helfat & Peteraf, 2003). The first is that the firm must have a principal objective necessitating the creation of a capability. For our purposes, it is the success of the first move itself that is the objective. The second condition is that the leadership of the firm must have the capacity to mobilize and effectively lead its employees to achieve the objective (Helfat & Peteraf, 2003). This is shown in Figure 1 as the "leadership capacity" dimension of organizational capacity.

Helfat and Peteraf (2003) are careful to point out that this process does not take place in a void. Indeed, the individuals in the firm must have human and social capital available to achieve the objective. Social capital is included in the model in the form of the organizational capability dimension, "combinative capabilities." Combinative capabilities represent the ability of the organization "to synthesize and apply current and acquired knowledge" (Kogut & Zander, 1992, p. 384) in the pursuit of organizational objectives. Additionally, other inputs may be necessary to support the firm's efforts at building resources (Helfat & Peteraf, 2003). We conceptualize "other inputs" as slack assets available to the firm and include it as the third dimension of organizational capacity. In the literature, slack is viewed as untapped or underutilized assets that enable a firm to adapt and facilitate new strategies (e.g. Bateman & Zeithaml, 1989; Bourgeois, 1981; Cyert & March, 1963).

To summarize, the objective of a successful first move necessitates the innovation sources of advantage (capabilities and resources) which, in turn, require leadership, human and social capital, and other inputs. Organizational capacity, as conceptualized here has three dimensions – leadership, combinative capabilities, and slack assets. To the extent that these dimensions include "leadership, human and social capital, and other inputs" as discussed above, the model is consistent with the founding stage of the CLC approach. Finally, as seen in the model in Figure 1, organizational capacity moderates the relationship between first moves and sources of advantage.

Organizational capacity dimension 1 - Combinative capabilities

The new knowledge acquired from first moves (e.g., new processes, new market information, etc.) needs to be incorporated into the firm. Given that combinative capabilities are the ability "to synthesize and apply current and acquired knowledge" (Kogut & Zander, 1992, p. 384), combinative capabilities would be used to support the first move in creating sources of advantage by facilitating the acceptance and utilization of the new knowledge. Thus, we propose

Proposition 2a: The first move-sources of advantage relationship is moderated by combinative capabilities such that the higher the level of combinative capabilities, the more positive the first move-sources of advantage relationship.

Organizational capacity dimension 2 - Leadership capacity

Leadership is a central part of organizational capacity because leaders, in addition to representing the firm in the business arena, are responsible for setting organizational values and direction, and for inspiring employees to accept and work towards the mission and goals of the firm (Hinings & Greenwood, 1989). Leaders can do more than just administrators or decision makers, they can build and change an organization (Barney & Arian, 2001; Selznick, 1984). In their treatment of leadership, Hinings and Greenwood (1989) rely on the concept of transformational leadership. By virtue of their personality and ability, transformational leaders change the basic beliefs of their followers thereby motivating them to perform in ways they normally would not have performed (Kuhnert & Lewis, 1987). Because Hinings and Greenwood (1989) are talking about large scale reorganization, this type of leadership may be necessary. The incorporation of a first move into an organization may not be as dramatic a change as that considered by Hinings and Greenwood (1989), its ultimate success does not require the visionary, holistic abilities characteristic of a transformational leader. Rather, it is the more commonplace traits and skills (i.e., the leadership capacity (Leavy, 1996)) of the effective leader that afford strategic influence on the firm that will ensure that sources of advantage are created from the first move. As such, we predict that

Proposition 2b: The first move—sources of advantage relationship is moderated by leadership capacity such that the higher the leadership capacity of a firm, the more positive the first move-sources of advantage relationship.

Organizational capacity dimension 3 - Slack assets

Assets of the firm provide a “bundle of possible services” that contributes to the operations of the firm (Penrose, 1959, p. 67). Firms have unused productive services from assets because assets are indivisible and do not necessarily come in the exact unit needed for current operations, because firms may be able to use assets in more than one way, and because firms are always creating assets (Penrose, 1959). Others have similar conceptions. Scholars often view slack as untapped or underutilized resources that enable a firm to adapt and facilitate new strategies (e.g. Bateman & Zeithaml, 1989; Bourgeois, 1981; Cyert & March, 1963).

As part of organizational capacity, slack assets refer to assets upon which a firm can draw to help create new resources that lead to advantage. Specifically, when a firm undertakes a first move, slack assets help to create the sources of advantage. For instance, financial slack could help to buy plant and equipment to support the first move in creating a source of advantage based on preemption of assets. Similarly, a firm’s slack reputational assets could be leveraged by a first move to help create a source of advantage by influencing buyer behavior. Thus, we expect that

Proposition 2c1: The first move-sources of advantage relationship is moderated by slack assets such that the more slack assets a firm possesses, the more positive the first move-sources of advantage relationship.

In the workplace, combinative capabilities and leadership capacity are broad, all-encompassing influences, affecting virtually every aspect of the firm and its activities. As aspects of organizational capacity, they can be utilized to secure benefits from any or all of the three sources of advantage thought to lead to increased firm performance. However, we do not expect this to be the case with the third component of organizational capacity, slack assets. The situation here is a bit more complex.

To begin to explore this, we draw on early work by Hofer and Schendel (1978) delineated by Grant (1991), to determine the slack associated five different types of assets: physical, financial, technological, human, and reputational. (It should be noted that these scholars identified a sixth type, organizational assets. However, this type of asset is indistinguishable from two of the combinative capabilities we examine in detail later; consequently, to avoid conceptual overlap, we do not consider it further here). For reasons discussed below, we expect that each specific type of slack asset is most effective with a particular source of advantage. This source of advantage, in turn, carries with it a specific level of sustainability and rent appropriability (which will ultimately affect performance). For purposes of clarification regarding the relationship between the various forms of slack assets, the three different sources of advantage, and their ultimate effects on sustainability and rent appropriation, we provide Table 1 below.

Asset Type	Source of Advantage Created from Slack Asset	Sustainability of Source	Appropriability of Rents from Source
Physical	Pre-emption of assets	Low	High
Technological	Technological leadership	Moderate	High
Human	Technological leadership	Moderate	Low
Reputational	Influence on buyer behavior	High	High
Financial	Pre-emption of assets	Low	High

It seems that first moves relying on physical and financial assets would be most likely to lead to advantages related to preemption of assets. For instance, existing physical assets, such as a fabrication facility, may be modified from their original purpose and adapted for new products or processes (i.e., a first move). Competitors may be able to buy and/or imitate such assets, so preempting assets may only provide a temporary advantage. Physical assets can also lose value by wearing down from usage; thus, sustainability becomes a further issue. Relying upon financial resources will likely only allow firms to buy physical assets as opposed to the other less tangible sources of advantage that are not tradable on the open market. (This is not to say that financial resources are not necessary in stages of building other sources of advantage, but are the most directly relevant here.) As such, pre-empting assets may only provide a temporary advantage since other companies may be able to buy and/or imitate such resources. However, firms should be able to appropriate the rents associated with the preemption of assets.

As seen in Table 1, technological slack assets, as well as those human resources related to technology, will likely interact with first moves to provide technological leadership for the firm. This includes not just the acquisition of additional technological assets, but also includes access to relevant, applicable technology and/or the technologically-savvy human resources upon which the firm can build expertise and capture

learning curve effects. In terms of sustainability, technological leadership may not be easily established or well understood, thereby reducing the speed of imitation by competitors. Hence, we expect that technological leadership as a source of advantage may well last longer than preemption of assets. Concerning appropriability, rents from technology specifically owned by the firm can readily be appropriated. However, technology that is human resource-driven can be lost to the company if the employee leaves or engages in fraudulent behavior (e.g., industrial espionage).

Reputational assets used in conjunction with first moves are likely to positively influence consumers in such a way as to create company and/or brand loyalty. Although the product or service from a first move would be new to consumers, the firm's reputational assets can help reduce the risk of an unsuccessful first move. Further, reputation is very socially complex and, consequently, inimitable. Indeed, scholars believe reputational assets to be some of the most durable assets (Grant, 1991). Likewise, sources of advantage coming from the reputational assets supporting a first move would likely be fairly durable. Finally, the reputation belongs distinctly to the brand or firm; therefore, rents accruing as a result of the reputation and a first move are likely to be appropriable by the firm. Thus,

Proposition 2c2: The positive impact of slack technological assets and slack human resources on the performance effects of first moves is greater than that of slack physical and financial assets, but less than that of reputational slack.

ENVIRONMENTAL DYNAMISM

Environmental contingencies have been shown theoretically (e.g., Suarez & Lanzolla, 2007) and empirically to play a role (e.g., Durand & Coeurderoy, 2001; Covin et al., 2000) in the first move—performance relationship. We suggest that different environmental conditions can influence the moderating effect of organizational capacity on the first move—performance relationship. Inasmuch as the most important aspect of the firm's environment in terms of its goals is its task environment, (Castrogiovanni, 2002; Dill, 1958), it seems reasonable that the level of dynamism present in this environment would affect a strategic initiative such as a first move. To this end, the variable environmental dynamism plays a role in our model. Environmental dynamism involves the instability, rate of change, and unpredictability of factors in the environment, and can be visualized as a continuum with endpoints ranging from stable to dynamic (Dess & Beard, 1984; Priem, Rasheed, & Kotulic, 1995). The degree of stability in the environment is particularly salient when considering the first-mover phenomenon because it may represent part of the risk inherent in a first move. In the current model, there are two ways in which the environment plays a role in the influence of first moves and organizational capacity on performance.

Mechanism A

Environmental dynamism has the potential to moderate the effect that the combinative capabilities and leadership capacity dimensions of organizational capacity have on the ability of a first move to lead to a source of advantage (see Arrow "A" in Figure 1). With regard to combinative capabilities, the manner in which this influence occurs is by affecting the firm's ability to absorb and integrate knowledge.

Knowledge integration is key for firm success (Grant, 1996). First moves present the firm with access to new knowledge. For example, a first mover may encounter new knowledge about customers (Cho et al., 1998), insight into reducing costs (Lieberman & Montgomery, 1988), and specifics of the first move that need to be disseminated throughout the firm (Dos Santos & Peffers, 1995). As firms learn and integrate knowledge, it is important to consider how much “exploration” vs. “exploitation”, in terms of learning and knowledge, takes place (see March, 1991). In stable environments, exploitation is likely preferred, whereas, in more dynamic environments, exploration is likely favored (Van den Bosch et al., 1999). Thus, first moves in stable environments should be adopted in a manner which draws from/builds on existing strengths and knowledge within the firm. Alternately, first moves in dynamic environments should incorporate a wider range of factors. Van den Bosch et al. (1999) explain that the constituent combinative capabilities of socialization, coordination, and systems will vary in their impact on knowledge absorption depending upon whether the environment favors exploration or exploitation (i.e., dynamic vs. stable environment). In the next propositions, we apply this logic to the first-mover scenario.

Socialization capabilities are a shared organizational ideology providing identity, norms for action, and collective understanding (Van den Bosch et al., 1999). Such capabilities allow for quick and proficient integration of new knowledge, as long as it is consistent with the firm’s current ideology (Van den Bosch et al., 1999). But, many ideologies or cultures would actually constrain change (Van den Bosch et al., 1999), a situation less favorable for an exploratory perspective. For example, consider a situation in which a first mover is facing a more dynamic environment, and is ultimately required to learn about a radical technology in order for the first move to be able to gain the source of advantage of technological leadership. If the firm also has strong socialization capabilities, then this knowledge is likely to be of little value to the company. Thus,

Proposition 3a: In a more dynamic environment, higher levels of socialization capabilities lead to a smaller augmentation in the sources of advantage created by first moves than they do in a less dynamic environment.

Coordination capabilities include the informal relationships, education and training processes, and participative decision procedures among employees that impact the degree of knowledge integration within the firm (Van den Bosch et al., 1999). Employees of firms high in coordination capabilities tend to have a great range of job-related knowledge. As a result, they can easily coordinate across individuals, functions, and units, and they have a strong ability to delegate in order to facilitate knowledge integration (Van den Bosch et al., 1999). This allows for a broad array of knowledge to be absorbed into the firm, a condition necessary in an environment that favors exploration (Van den Bosch et al., 1999). For example, in a more dynamic environment, a first mover may find itself trying to get its product accepted by (i.e., creating the source of advantage of influencing buyer behavior) a very different and difficult to predict customer group. To maximize its chance of success, it would need to be able to quickly disseminate and integrate knowledge about these customers across departments or functions (so the information doesn’t just sit in the marketing department, for example), thereby relying more heavily on coordination capabilities than they would need to in a less dynamic environment. So, we expect that

Proposition 3b: In a more dynamic environment, higher levels of coordination capabilities lead to a larger augmentation in the sources of advantage created by first moves than they do in a less dynamic environment.

Systems capabilities are highly explicit rules and procedures that can help facilitate knowledge integration (Van den Bosch et al., 1999). On the surface, it seems that these would, like socialization capabilities, constrain change. Indeed, it has long been recognized that formalization and codification can cause inertia within the firm (Zollo & Winter, 2002). However, the inertia associated with socialization capabilities that are deeply embedded in the culture of the firm is not as problematic as it is with systems capabilities. Effective management can change the content of systems capabilities (Van den Bosch et al., 1999) to fit the demands of the environment. That is, management can alter the rules and procedures (as in systems capabilities) when necessary in order to react to changes in environmental demands, whereas the depth and texture of the firm's culture (as in socialization capabilities) make rapid change in implicit norms of conduct highly unlikely. Therefore, it is not clear what the impact of the environment may be on systems capabilities.

Environmental dynamism is also expected to influence the effect of leadership capacity in the model. The skills and abilities of an effective leader may play a more prominent role in dynamic rather than stable environments. For example, it has been noted that a "top-down" management approach, with the CEO dictating actions of the company may expedite processes in turbulent environments, such that first-mover advantages may be captured (Eisenmann & Bower, 2000).

From a more broad perspective, leaders are more likely to be able to affect change in a more dynamic environment. It is in such an environment that leaders have more discretion, unlike in stable environments which are more deterministic (e.g. Finkelstein & Hambrick, 1996; Goll & Rasheed, 1997). Leadership capacity will be both more necessary and more effective in dynamic environments, and, consequently, will be able to better support a first move in creating sources of advantage. Thus,

Proposition 3c: In a more dynamic environment, higher leadership capacity leads to a larger augmentation in the sources of advantage created by first moves than it does in a less dynamic environment.

Mechanism B

Arrow "B" in Figure 1 depicts the second way in which the environment has an effect. Here, the environment dynamism plays a role in how effectively firms convert the sources of advantage into rents. In this section, we show how some of the slack assets, discussed previously and illustrated in Table 1, are likely to lead to specific sources of advantage, and how the impact of these sources of advantage on firm performance will be a function of the dynamism of the environment.

The firm's reputation – an asset shown earlier to lead to influencing buyer behavior – is, in effect, a "summary statistic" about the organization (Teece, Pisano, & Shuen, 1997). In a dynamic environment, time is of the essence; therefore, stakeholders might rely heavily on reputation as a proxy for specific, detailed, harder to obtain information about the firm. In a less dynamic environment, stakeholders would have more time to examine a company in greater detail and need not rely as heavily on reputation. Therefore,

reputational assets that help first moves build sources of advantage relating to influencing buyer behavior will be more salient in dynamic environments than in more stable environments. As a result,

Proposition 4a: In a more dynamic environment, reputational slack and resultant sources of advantage from influencing buyer behavior lead to larger increases in the performance effects of first moves than they do in a less dynamic environment.

The opposite outcome may be expected when preemption of assets as a source of advantage is considered. The essence of a dynamic environment is change. Being locked into strategically specific assets (that is, preempting them) may be more valuable in a stable environment since there is an increased risk that these assets may become irrelevant faster in a dynamic environment. Therefore, slack assets that help build sources of advantage relating to preemption of assets will be less valuable in dynamic environments. As previously discussed, the slack assets having the most direct link to preempting assets are physical and financial assets. So, we expect

Proposition 4b: In a more dynamic environment, physical and financial slack and the resultant advantage from preemption of assets lead to smaller increases in the performance effects of first moves than they do in a less dynamic environment.

As indicated in Table 1, we expect technological and human slack assets to support first moves in generating technological leadership as a source of advantage. However, the ability to predict the effect of environmental dynamism on these relationships is not as strong as it is for the other slack assets and sources of advantage. Technology could be generally more valuable in dynamic environments, but it's also more likely to become obsolete there. Thus, we cannot determine the likely effect concerning slack assets that lead to technological leadership in this instance.

FEEDBACK

Feedback loops are valuable factors to consider in strategic processes. We have modeled three such loops in Figure 1. The way that a first-moving firm performs will affect its subsequent skills and assets, foresight, and organizational capacity. Subsequent first moves, in turn, may draw upon these new resources. Thus, to summarize the processes and effects of the variables in our theoretical model:

When asymmetries in the environment exist, luck, skill, and foresight can lead a firm to make a first move. The firm uses its organizational capacity to support the first move in creating sources of advantage and this will be affected by how dynamic the environment is. These sources of advantage will lead to increased performance if they are sustainable and if rents can be appropriated from them. Finally, the outcomes of the advantage building

process, reflected in performance, affect the firm's future internal organizational characteristics.

DISCUSSION

This paper makes several contributions to the research literature on the first move—performance relationship. First, inspired by the work of Lieberman and Montgomery (1988; 1998), we present a comprehensive model of this relationship with specific propositions for future empirical research. In addition to synthesizing the extant literature in this area, we discuss two key variables, organizational capacity and environmental dynamism, and explain their impact on the first move—performance relationship. We propose that organizational capacity, moderates the first move—performance relationship by helping the firm to secure sources of advantage over its competitors. Introducing organizational capacity into the model contributes to the literature in three ways. First, it identifies a collection of internal organizational characteristics (i.e., combinative capabilities, leadership capacity, and slack assets) and their respective influences in the processes discussed here. Second, the organizational capacity variable not only increases our understanding of the first move—firm performance relationship, but also provides a vehicle for future first move research on internal organizational characteristics and their combined impact with environmental dynamism. Third, specifying this variable in the model adds to the literature of the resource-based view by more closely examining the manner in which firms create sources of advantage, a notable aspect of the resource-based research agenda (Barney, 2001).

Additionally, there are managerial implications that can be taken from this research. The decision to undertake pioneering actions can be a critical part of a firm's competitive strategy. Such a decision is not always clear cut, however. Even though firms might derive sources of advantage from a first move, they are inherently risky corporate initiatives and are not suitable for many firms (Lieberman & Montgomery, 1988). Thus, it is essential to understand if and when the firm is likely to be successful at moving first.

In order to achieve sustained first-mover advantages, a firm must create some unique source of advantage. The propositions presented here, if proven true, provide insight as to how managers can better determine when and what action to take in order to secure these sources of advantage. One notable lesson for managers is to recognize that the firm must have the requisite organizational capacity if it hopes to be successful. Strong leadership skills, the ability to integrate existing and acquired knowledge (i.e., combinative capabilities), and slack assets to draw upon all play a role in this relationship.

In the case of combinative capabilities, for example, managers would do well to monitor the inertia typical of socialization capabilities in dynamic environments as well as the efficiency of coordination capabilities in stable environments to make sure that the firm supports the first move to the fullest extent. As for leadership, stronger leaders are desirable for leading first movers in a dynamic environment. Therefore, caution should be exercised when deciding to make a first move if appropriate leadership is not available in a dynamic environment. In terms of slack assets, reputational assets may be the most valuable in supporting a first move, given their strong influence on buyer behavior. This is particularly true in a dynamic environment. Alternately, physical and financial assets, that primarily serve to preempt assets, may be the least likely to help a first move. However, preemption of assets may be more useful in a more stable environment. Thus, even though a firm may not have overly strong reputational assets, all hope is not lost:

if the firm operates in a fairly stable environment, it may be able to produce a successful first move provided it has strong physical and financial slack assets at its disposal.

In this paper we added to our knowledge of how firms may increase their performance. In particular, we discussed first move impact as being contingent upon the internal characteristic of organizational capacity as well as the dynamism of the external environment and how this model is consistent with the resource-based view of the firm. As such, the discussion here can provide grounds for future research to continue to refine our understanding of these relationships and can provide useful implications for managers faced with the inevitable decision of whether to make a first move.

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THE DU PONT MODEL: EVALUATING THE EFFECT OF AN ECONOMIC RECESSION ON THE SUCCESSFUL IMPLEMENTATION OF ALTERNATIVE STRATEGIES IN THE RETAIL INDUSTRY

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ABSTRACT

Retail firms can pursue one of two strategies, product differentiation or cost leadership, to achieve financial success. To delineate strategies, firms in the retail industry are categorized according to their high/low relative net operating income to sales and asset turnover ratios. Firms with high relative net operating income to sales and low relative asset turnover are assumed to be pursuing a differentiation strategy and those with high relative asset turnover and low relative net operating income to sales are assumed to be pursuing a cost leadership strategy. Using the Du Pont model, Little, Little, and Coffee (2008) suggest that firms using a differentiator strategy out-performed those firms using a cost leader strategy during a period of economic growth. The purpose of the current paper is to examine the financial performance of retail firms during the recent decline in economic growth. The current paper uses the Du Pont model to examine the financial performance of firms with fiscal years ending on or around December 31, 2008 with retail firms with fiscal years ending on or around December 31, 2006 and 2007. The findings suggest that retail firms that pursue a differentiation strategy do not outperform those retail firms that use a cost leadership strategy.

INTRODUCTION

A study by Little, Little, and Coffee (2008) examined financial performance of retail firms through the use of a modified Du Pont model of financial ratio analysis in order to identify the drivers of financial success using the alternative business strategies of cost leadership and differentiation. Their data were from retail firms with fiscal year ends on or around December 31, 2007. Their findings suggest that retail firms pursuing a differentiation strategy are more likely to achieve a higher return on net operating assets than those firms pursuing a cost leadership strategy. Since the time period of their study, the economy has been faced with one of the worst recessions in the history of the United States. The retail industry as a whole has been hit hard by this recession. Data gathered from the Compustat database of retail firms with fiscal year ends on or around December 31, 2008 reveal that comparable store sales increases (decreases) averaged 4.2% in 2005, 3.6% in 2006, 1.7% in 2007, and (2.3%) in 2008. Given that retail customers with less ready cash to spend may not be as willing to buy high end differentiated products versus lower priced cost leadership products,

it seems logical that cost leadership retail firms may outperform differentiator firms in a recessionary economy.

Accordingly, the purpose of this paper is to examine the financial performance of retail firms with fiscal years ending on or around December 31, 2008 with retail firms with fiscal years ending on or around December 31, 2006 and 2007. As with Little, Little, and Coffee (2008), the modified Du Pont model of financial ratio analysis is used to identify the drivers of financial success under alternative business strategies. Firms in the retail industry are categorized according to their high/low relative net operating income to sales and asset turnover ratios. Firms with high relative net operating income to sales and low relative asset turnover are assumed to be pursuing a differentiation strategy and those with high relative asset turnover and low relative net operating income to sales are assumed to be pursuing a cost leadership strategy. The performance variable used is return on net operating assets.

BUSINESS STRATEGY

Strategy can be defined as “the direction and scope of an organization over the long term, in order to achieve advantage for the organization through its configuration of resources within a changing environment, to meet the needs of the market and to fulfill stakeholder expectations.” (Johnson & Scholes, 2002, p.10.) In essence, strategy defines a company’s competitive stance within an industry.

A widely recognized model for characterizing business-level strategies is Porter’s (1998) generic competitive strategies. He identifies three strategies, cost leadership, differentiation and focus. For our purposes, these can be narrowed to two, because a focus (niche market) strategy is either cost leadership or differentiation-based (Price & Newson, 2003).

Cost leadership strategy attempts to achieve organizational goals by delivering a product or service comparable to competitors’ at a lower cost to the customer. Firms pursuing this strategy maintain tight controls on costs and often look for economies of scale and sales volume. Palepu and Healy (2008) suggest that a firm pursuing cost leadership strategy may generate a relatively low profit margin but balance that against a relatively high asset turnover. Soliman (2008), in his analysis of the components of the Du Pont method, while not using the cost leadership/differentiation terminology explicitly, clearly suggests their existence. He states that asset turnover measures “asset utilization and efficiency, efficient inventory processes and working capital management” (p. 824). He offers Dell Computers as example of this business model.

A differentiation strategy, alternatively, attempts to deliver to consumers some characteristic of product or service that will command a premium price. Examples of such characteristics include brand name, quality, service, design, delivery method and variety. Companies pursuing a differentiation strategy must balance expenditures for marketing and R&D with ability to price their product/service competitively against others in the same market (Palepu & Healy, 2008). Firms pursuing this strategy may be successful by generating a relatively high profit margin and a relatively low asset turnover. Soliman (2008) states that profit margin is derived from “pricing power, such as product innovation, product positioning, brand name recognition, first-mover advantage and market niches.” (p. 824). Abercrombie and Fitch is cited as an example of such a business model.

Retailers pursuing a differentiation strategy focus on the dimension of the product/service that commands a premium price, while not ignoring operating expenses. Likewise, cost leaders cannot ignore product characteristics desired by customers (Palepu & Healy, 2008).

Gooderham (1998) states that “no one right way to develop and implement strategy exists... The key is to get the right fit between the chosen tools and techniques, the organization’s culture, capabilities and business environment, and the desired outcome.” (p. 2). In addition, the theoretical underpinnings of the Du Pont model illustrate that a firm can be successful with either a cost leadership strategy through generating asset turnover or a differentiation strategy generating profit margins. This study provides empirical evidence testing this theory.

THE MODIFIED DU PONT MODEL

The original Du Pont method of financial ratio analysis was developed in 1918 by an engineer at Du Pont who was charged with understanding the finances of a company that Du Pont was acquiring. He noticed that the product of two often-computed ratios, net profit margin and total asset turnover, equals return on assets (ROA). The elegance of ROA being affected by a profitability measure and an efficiency measure led to the Du Pont method becoming a widely-used tool of financial analysis (Liesz, 2002). In the 1970’s, emphasis in financial analysis shifted from ROA to return on equity (ROE), and the Du Pont model was modified to include the ratio of total assets to equity.

In order to more effectively evaluate operational managers, Nissim and Penman (2001) suggest using a modified version of the traditional Du Pont model in order to eliminate the effects of financial leverage and other factors not under the control of those managers. Using operating income to sales and asset turnover based on operating assets limits the performance measure of management to those factors over which management has the most control. The modified Du Pont model has become widely recognized in the financial analysis literature (See, for example, (Pratt & Hirst, 2009; Palepu & Healy, 2008; Soliman, 2008)). In addition, Soliman (2004) found that industry-specific Du Pont multiplicative components provide more useful valuation than do economy-wide components, suggesting that industry-specific ratios have increased validity.

The modified model is as follows:

$$\text{RONOA} = \text{OPM} \times \text{AT}$$

WHERE:

RONOA	=	Return on Net Operating Assets
OPM	=	Operating Profit Margin (Operating Income / Sales)
AT	=	Asset Turnover (Sales / Net Operating Assets)
Operating Income	=	Sales - Cost of Sales - Operating Expenses
Net Operating Assets =		Accounts Receivable + Inventory + Net Property, Plant, and Equipment – Accounts Payable

Either strategy could generate a relatively high RONOA when successful or low RONOA when not successful. In a homogeneous industry such as retail firms one could expect to see both successful and unsuccessful (as measured by RONOA) firms pursuing profit margin strategies (differentiation) or asset turnover strategies (cost leadership).

The data presented below depict the set of combinations of relative operating profit margin (OPM) and relative asset turnover (AT) performance paired with the overall performance measure, return on net operating assets (RONOA).

Category	Relative OPM	Relative AT	Relative RONOA
1.	HIGH	LOW	HIGH
2.	HIGH	LOW	LOW
3.	HIGH	LOW	MID
4.	LOW	HIGH	HIGH
5.	LOW	HIGH	LOW
6.	LOW	HIGH	MID

The central question of this research is whether there is a significant difference in performance, as measured by RONOA, between retail firms that employ an OPM/differentiation strategy (Categories 1-3) or those that pursue an AT/cost leadership strategy (Categories 4-6) and if the state of the economy (recession versus non-recession) affects the outcome.

RESEARCH METHOD

The Compustat database (2009) was used to select a total of 120 companies from the retail industry with fiscal years ending on or around December 31 for the years 2006, 2007, and 2008. These companies are in the following retail industry categories:

Building Supply	4
Department Stores	14
Grocery Stores	11
Automotive	12
Apparel	31
Furniture	3
Electronics	4
Restaurants	23
Pharmacies	3
Other	15

The companies remaining in the sample were then sorted by the 40 highest and 40 lowest relative values for the variables OPM (average of 2006-2008) and AT (average for 2006-2007) leaving 40 companies in the middle category (neither relatively high nor relatively low). Averages of OPM, AT, and RONO A for each category are as follows:

Category	OPM	AT	RONOA08	RONOA07	RONOA06
High OPM	11.6%	3.32	32.3%	38.4%	38.9%
Low OPM	1.7%	3.94	4.8%	8.4%	11.2%
Mid OPM	5.6%	3.63	17.0%	20.6%	23.7%
High AT	5.7%	5.57	29.6%	33.1%	32.2%
Low AT	7.8%	1.98	11.1%	16.2%	18.5%
Mid AT	5.3%	3.40	13.7%	18.2%	23.2%

The identification categories for OPM, AT, and RONO A were sorted such that the 40 highest relative RONO A and the 40 lowest relative RONO A retail firms could be analyzed to determine the number of firms in the high/low relative OPM categories (27 companies) versus those in the high/low relative AT categories (27 companies). The findings of this analysis can be found in the results section of this paper.

The next step in the research process was to run ANOVA statistics on those 27 retail firms in the relative high OPM and low AT category (differentiation strategy) and those 27 retail firms in the relative high AT and low OPM category (cost leadership strategy) to test if there was a statistically significant difference in the RONO A performance of the two different categories for each year from 2006-2008.

RESEARCH RESULTS

The data reported below show sample statistics for the variables used in the one way ANOVAs models for each of the strategy categories.

During the years 2006 and 2007, the mean RONO A for the sample of 27 firms in the differentiation strategy category (high OPM and low AT) was about 33 percent in 2006 and about 30 percent in 2007. The mean RONO A for the differentiation strategy companies in 2006 and 2007 was substantially higher the mean RONO A of about 24 percent for 2006 and 22 percent for 2007 for the cost leader strategy companies. However, in 2008 the mean RONO A of about 24 percent for the differentiation strategy companies was only slightly higher than for the cost leader strategy companies at about 21 percent. In addition, the mean RONO A for the cost leader strategy companies declined from about 24 percent in 2006 to about 21 percent in 2008. In contrast, the mean RONO A of the differentiation strategy companies declined much more sharply from about 33 percent to about 24 percent.

Differentiation Strategy Category					
Variable	Firms	Mean	Std. Dev.	Max.	Min.
RONOA08	27	0.244	0.093	0.542	- 0.023
RONOA07	27	0.299	0.123	0.762	0.161
RONOA06	27	0.330	0.166	0.978	0.164
AVGAT	27	2.474	0.786	4.013	1.073
AVGOPM	27	0.123	0.049	0.242	0.073
Cost Leader Strategy Category					
RONOA08	27	0.206	0.135	0.472	-0.030
RONOA07	27	0.222	0.115	0.508	0.061
RONOA06	27	0.236	0.135	0.578	0.081
AVGAT	27	5.639	1.602	11.066	4.153
AVGOPM	27	0.040	0.020	0.069	0.008

An ANOVA procedure was run using a categorical variable for the independent variable representing the strategy categories as the high OPM and low AT differentiation strategy and the high AT and low OPM cost leadership strategy. The dependent variable is RONO A. The results of the ANOVA shown below indicate that there was no statistically significant difference in the mean values for RONO A for 2008 (recession year) in the two strategy categories. On the other hand, there are statistically significant differences in RONO A for the two strategy categories for 2007 and 2006 (non-recession years). The size variable represented by LOGSALES is not statistically significant different between the two strategy categories and there were no significant differences between the retail categories.

Variables	Pr > F
Dependent:	RONOA08
Independent: Strategy Categories	<0.2877
	R ² = 0.02
Dependent:	RONOA07
Independent: Strategy Categories	<0.028
	R ² = 0.10
Dependent:	RONOA06
Independent: Strategy Categories	<0.029
	R ² = 0.10

CONCLUSIONS

The results of this study suggest that retail firms that pursue a differentiation strategy (high OPM and low AT) outperform those retail firms that use a cost leadership strategy (high AT and low OPM) as measured by the performance variable RONOA for the two non-recession years 2006 and 2007. However, the results of this study do suggest that retail firms that pursue a differentiation strategy (high OPM and low AT) do not outperform those retail firms that use a cost leadership strategy (high AT and low OPM) as measured by the performance variable RONOA for the recession year 2008.

The mean values for RONOA in the years 2006 and 2007 for the 27 firms in the differentiation strategy category are considerably higher than the values for the 27 firms in the cost leadership category and the differences are statistically significant. In contrast, the mean values for RONOA in the year 2008 for the 27 firms in the differentiation strategy category are not considerably higher than the values for the 27 firms in the cost leadership category and the differences are not statistically significant.

These results indicate that the premise that the state of the economy can influence which strategy can be successful is true for this sample of retail firms. Also, these results confirm the findings of Little, Little and Coffee (2008) that retail firms using a differentiation strategy outperform retail firms using a cost leader strategy in a non-recessionary period.

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