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ENTREPRENEURIAL ORIENTATION, COMMUNICATION STRATEGIES, AND NEW PRODUCT SUCCESS: A THEORETIC MODEL

Chun-Lan Chang, University of Queensland

ABSTRACT

Although entrepreneurial orientation and communication both benefit new product development, little attention understands their relationship. According to the resource-based view and contingency theory, this study builds a theoretic model in the context of the hi-tech sector. In the resource-based view, the present study explores the relationship between entrepreneurial orientation, communication strategies, and new hi-tech product success. Entrepreneurial orientation implements operations communication strategies to reach internal new hi-tech product success. Besides, entrepreneurial orientation executes marketing communication strategies to arrive at external new hi-tech product success. In contingency theory, technological uncertainties positively moderate the relationship between operations communication strategies and internal new hi-tech product success. Market uncertainties positively moderate the relationship between marketing communication strategies and external new hi-tech product success. In conclusion, this study shows the roles of communication strategies in the resource-based view and contingency theory to demonstrate their contributions to new hi-tech product success.

Keywords: Communication Strategy; Entrepreneurial Orientation; New Product Development; Technological Uncertainties; Market Uncertainties

New product success determines organizational performance such as sales and profits. It is reported that new products account for about 50% of sales and 40% of profits in companies (Cooper, 2000). Likewise, most firms rely on new products to increase sales and profits. The obsolete products cannot satisfy the needs of target customers. To develop new products is crucial to the firms' success. As a result, the firms compete to develop new products in order to achieve organizational performance. Meanwhile, new product development shapes short product life cycles, and the firms cannot but fast develop new products (Rink and Swan, 1979). As we see the rapid development of IT products like iPhones and iPads, the firms endeavor to develop new products for financial returns.

With respect to new product success, the literature has already shown that the rewards of new products appear more spectacular in the hi-tech sector (Song & Parry, 1997). Hi-tech firms need to develop new products for profits under short product life cycles. The fast new product development is the firm's lifeblood. For example, Hewlett-Packard and Northern Telecom adopt quick new product development to attain better performance (Oakley, 1996). In Taiwan, the Hsinchu Science Park accommodates the manufacturers of information technology hardware products in semiconductors, computers and peripherals, telecommunications, and optoelectronics (Hu & Li, 2006; Hsinchu Science Park, 2013; Lee & Yang, 2000). They develop high-value products to succeed in the marketplace (Song, Montoya-Weiss, & Schmidt, 1997; Tanzer, 2001).

On the basis of new product success, Wernerfelt (1984) suggests that resources and products may be the two sides of the same coin to convey the association between resources and products given the resource-based view. The resource leads to profitable new products

because the resource is valuable, rare, inimitable, and non-substitutable (Barney, 1991). In entrepreneurship and new product development, entrepreneurial orientation is the intangible resource as organizational culture to develop new products (Atuahene-Gima & Ko, 2001; Ireland, Hitt, & Sirmon, 2003). Entrepreneurial orientation comprises the organizational values of innovation, manageable risk-taking, and proactiveness to reflect entrepreneurship culture (Davis, Morris, & Allen, 1991). As the resource, entrepreneurial orientation is engaged in new product development to earn profits. With the antecedent of entrepreneurial orientation, communication is the route to arrive at new product success (Allen, 2007).

Although entrepreneurial orientation and communication both contribute to new product success (Atuahene-Gima & Ko, 2001; Brown & Eisenhardt, 1995; Ireland, Hitt, & Sirmon, 2003), little attention understands their relationship. In entrepreneurship, the research stream hasn't yet focused on how entrepreneurial orientation accomplishes new product success. Following the resource-based view, the present study considers communication strategies to link entrepreneurial orientation and new product success (Barney, 1991; Brown & Eisenhardt, 1995). In a consonant sense, it attributes to the literature gap. First, the literature in the resource-based view mainly focuses on the resource-performance relationship (e.g., Helfat & Peteraf, 2003; Lambe, Spekman, & Hunt, 2002; Masakure, Henson, & Cranfield, 2009; Miller & Shamsie, 1996; Newbert, 2007; Wade & Hulland, 2004; Wu, Yenlyurt, Kim, & Cavusgil, 2006). There are few efforts to center on the resource-strategy-performance relationship. Given this gap, the present study intends to adopt communication strategies to bridge the resource-performance relationship in new product development. Communication strategies focus on information activities (Park & Kim, 2008). Second, entrepreneurial orientation is the firm's resource to achieve new product success (Atuahene-Gima & Ko, 2001). However, the literature seems to lack the debate on how entrepreneurial orientation leads to new product success. Entrepreneurial orientation results in new product performance, but the literature also highlights that communication strategies give rise to new product performance (Allen, 2007). According to the theoretic foundation of the resource-based view, entrepreneurial orientation as organizational culture implements communication strategies to arrive at new product success. Particularly, the study classifies new product success into internal and external new product success (Tatikonda & Montoya-Weiss, 2001). Internal product success is associated with operations success, and external new product success is related to market success.

In line with contingency theory for strategic management (Zeithaml, Varadarajan, & Varadarajan, 1988), strategies are contingent to environmental contingencies to attain better new product performance as contingency theory includes three-type variables: contingency variables, response variables, and performance variables. The fit between contingency variables and response variables achieves better new product performance. The concept of the fit as congruence asserts that the fit is a combination of the contingency and strategy to produce higher new product performance (Donaldson, 2000). The literature hasn't shown the fit between environmental contingencies and communication strategies to obtain better new hi-tech product performance. Therefore, the present study explores the fit between environmental contingencies and communication strategies to attain higher new product performance. Environmental contingencies include technological uncertainties and market uncertainties (Atuahene-Gima & Murray, 2004). Technological uncertainties are associated with the operations side to influence operations communication strategies and thus internal new product performance (Tatikonda & Montoya-Weiss, 2001). Operations communication strategies mean the communication to transform inputs into outputs (Adam, 1983). Market uncertainties are related to the marketing side to affect marketing communication strategies and therefore external new product performance (Tatikonda & Montoya-Weiss, 2001). Marketing communication strategies provide marketing information in this study. Given

technological uncertainties and market uncertainties, hi-tech firms adjust communication strategies toward the fit that results in better new product performance.

In the research setting, the objective of this study attempts to build a theoretic model underlying the resource-based view and contingency theory for new product development in the context of the hi-tech sector. In the resource-based view, the model explores the relationship between entrepreneurial orientation, communication strategies, and new hi-tech product success. In contingency theory, it explores how technological and market uncertainties influence communication strategies to get better internal and external new hi-tech product performance. Therefore, this study builds a theoretic model through the literature like prior research (e.g., Bloch & Richins, 1983, Martin, Moritz, & Hall, 1999; Leary & Kowalski, 1990; Lefkowitz, 2010; Miller & Norman, 1979 ; Nezu, 1987; Seuring & Muller, 2008). Additionally, considering the assessment of theoretic variables such as communication strategies and new product performance, it needs different knowledgeable informants to provide primary data. It's hard to conduct empirical research. Therefore, this study establishes a theoretic model. Consistently, three questions are addressed. First, what communication strategy does entrepreneurial orientation implement to achieve new hi-tech product success? Second, how do technological uncertainties moderate the relationship between operations communication strategies and internal new hi-tech product performance? Third, how do market uncertainties moderate the relationship between marketing communication strategies and external new hi-tech product performance?

The sections of this article are structured as follows. The first section is the theoretic background and literature review. The second section is research findings. The third section is discussion. The fourth section is theoretic contributions and future research. The fifth section is managerial implications and limitations. At last, the final section is the conclusion.

Theoretic Background And Literature Review

According to the theoretic foundations of the resource-based view and contingency theory, the theoretic variables focus on entrepreneurial orientation, communication strategies, new product success, technological uncertainties, and market uncertainties.

The Resource-Based View

The seminal work of the resource-based view is Penrose's (1960) assertion that a firm is a pool of resources. Consistently, Wernerfelt (1984) argues that resources lead to profitable new products. Further, Barney (1991) specifies that the properties of the resource are valuable, rare, inimitable, and non-substitutable to bring about organizational performance. Meanwhile, he proposes that the firm's resource may implement the strategy to attain organizational performance. In the present study, entrepreneurial orientation is the firm's resource to implement communication strategies so as to accomplish new hi-tech product success.

Entrepreneurial Orientation

Entrepreneurial orientation includes organizational values of innovation, manageable risk-taking, and proactiveness and manifests them in organizational behavior (Atuahene-Gima & Ko, 2001). As the firm's resource, entrepreneurial orientation develops profitable new products. New product development is the innovation behavior of entrepreneurial orientation. Meanwhile, new product development faces high failure rates. Manageable risk-taking is necessary to control new product development risks and inputs (Cooper, 2000). Further, proactiveness means the proactive implementation of new products in short product life

cycles. Particularly, entrepreneurial orientation permeates hi-tech firms for new product prosperity (Atuahene-Gima & Ko, 2001; Li & Atuahene-Gima, 2001).

Given that entrepreneurial orientation is important to new product development in hi-tech firms, entrepreneurial orientation is the organizational culture to generate knowledge and competence for new product success (Zahra, Nielsen, & Bogner, 1999). The culture of entrepreneurial orientation searches the information about innovation, risk-taking, and proactiveness to yield organizational learning and knowledge in new product development (Atuahene-Gima & Ko, 2001). The firm-level entrepreneurial orientation gives rise to organizational learning and knowledge for new product success. Consistently, Young and Turks and Blue Chips are based on entrepreneurial orientation to be devoted to innovation (Avlonitis & Salavou, 2007). Moreover, entrepreneurial orientation benefits new product success of computer memory chips (Schendel, 1990). Because of entrepreneurship culture, Hewlett Packard, Texas Instruments, and 3M have successfully developed new products (Zahra, Nielsen, & Bogner, 1999). It is entrepreneurial orientation that contributes to the success of new hi-tech products.

COMMUNICATION STRATEGIES

In the course of entrepreneurial orientation and new hi-tech product success, entrepreneurial orientation implements communication strategies to achieve new product performance, which shows the resource-strategy-performance relationship (Barney, 1991). Communication centers on information ingredients (Brown & Starkey, 1994). It consists of three-type communication: knowledge, coordination, and inspiration (Morelli, Eppinger, & Gulati, 1995) in operations communication strategies and marketing communication strategies. The knowledge-type communication develops organizational learning and new skills to create new knowledge. The coordination-type communication represents information transfer and task coordination. The inspiration-type communication intends to motivate and inspire organizational members. Moreover, entrepreneurial orientation adopts communication strategies of innovative information, cross-functional coordination, advanced supplier communication methods, and message clarity as operations communication strategies as well as creative marketing leadership and brand salience as marketing communication strategies. In other words, entrepreneurial orientation is the organizational culture to implement communication strategies and drive new hi-tech product success. New product success includes internal and external new product success (Tatikonda & Montoya-Weiss, 2001). Internal new product success focuses on project work execution and captures the operational success of new product development efforts, consisting of product quality, low product cost, and innovation speed to represent new product operations performance. External new product success accomplishes market goals that comprise customer satisfaction, sales, profitability, and market shares to mean new product market performance.

Entrepreneurial Orientation-Communication Strategies-Internal New Product Success

Entrepreneurial orientation implements four operations communication strategies to reach internal new hi-tech product success: innovative information, cross-functional coordination, advanced supplier communication methods, and message clarity. These four operations communication strategies increase product quality, low product cost, and innovation speed to enhance internal new hi-tech product success.

Innovative information refers to fresh, original, and stimulus information for new product development (Brockman & Morgan, 2003). The communication strategy of innovative information provides novel information and creates the knowledge-type

communication. Information generates knowledge, and innovative information generates new knowledge for the knowledge-type communication (Nonaka, 1994). New products are also embodied knowledge (Madhavan & Grover, 1998). According to innovative information, hi-tech firms search and absorb new ideas to develop new products like 3M of many product lists. Further, innovative information sheds light on organizational learning and new knowledge to benefit product quality, low product cost, and innovation speed (Goktan & Miles, 2011). Hence, innovative information as the communication strategy contributes to internal new hi-tech product success.

Cross-functional coordination pertains to the effective integration of task information, which represents task information dissemination and coordination throughout the firms (Tajeddini, Trueman, & Larsen, 2006). Similarly, organizational culture as organizational structure guides information integration (Atuahene-Gima, 2003) and communication functions in production (Woodard, 1965). Thus, entrepreneurial orientation implements cross-functional coordination to achieve new hi-tech product success. The cross-functional coordination is the coordination-type communication strategy that cross-functional coordination exerts communication to commence information transfer and integrate tasks. For example, technical discoveries may not have deep effects on the firm until the update technical information is communicated to the manufacturing and marketing functions (Zahra, Nielsen, & Bogner, 1999). Cross-functional coordination contains explicit and implicit coordination (Rico, Sanchez-Manzanares, Gul, & Gibson, 2008). Consistently, explicit coordination concentrates on programming coordination; implicit coordination focuses on cognition and anticipation to realize work. Seemingly, entrepreneurial orientation implements explicit information transfer. Meanwhile, organizational values of entrepreneurial orientation commence implicit work coordination underlying cognition and anticipation to develop prosperous new hi-tech products.

Advanced supplier communication methods are critical information communication technology to supply production, including computer-to-computer links, electronic data interchange (EDI), and enterprise resource planning (ERP) as communication methods (Carr & Kaynak, 2007). With advanced business communication, the collective desire appears and drives to know the work better and reach operations goals (Graham & Thralls, 1998). Additionally, advanced development efforts favor new product development (Joglekar & Rosenthal, 2003). For instance, companies can provide superior equipment to assist new product development. By the same token, advanced supplier communication methods are obviously considered as the coordination-type communication to enhance new hi-tech product operations performance (Sanders, 2008). With this respect, entrepreneurial orientation is the organizational culture to influence new hi-tech product performance through communication (Badir & Buechel, 2007). Likewise, organizational culture impacts the coordinated communication flow to achieve operations excellence. In brief, entrepreneurial orientation depends on advanced supplier communication methods as the communication strategy to enhance new hi-tech product operations performance.

Message clarity refers to precise and unambiguous messages in communication processes (Chen, Shen, & Chiu, 2007). Hence, interpersonal communication asserts message clarity as the message style or characteristic in the presentation format, particularly in the use of rapid communication facilities (Wilson & Zigurs, 2001). Based on interpersonal communication in the communication processes, message clarity strives for effectiveness, associated with coordination (Bambacas & Patrickson, 2008). Considering information-focus communication, message clarity definitely elucidates information clarity in the communication processes to provoke the stable communication of coordination (Brown & Utterback, 1985). Apparently, message clarity exists in the coordination-type interpersonal communication aligned with the stable information format. In the presentation format of

interpersonal communication, message clarity coordinates new product work in an organization and leads to product quality, low product cost, and innovation speed in operations success (Boudreau, Hopp, McClain, & Joseph, 2003). The organizational culture recognizes message clarity in communication to achieve operational excellence (Kasper, 2002). As a consequence, entrepreneurial orientation implements message clarity to attain new hi-tech product operations performance.

The above debate shows that entrepreneurial orientation mainly implements the coordination-type communication strategies to achieve internal new hi-tech product success. Additionally, entrepreneurial orientation only implements one knowledge-type communication strategy such as innovative information to reach internal new hi-tech product success. Alternatively, entrepreneurial orientation emphasizes coordination-type communication underlying the organizational values of innovation, risk-taking, and proactiveness. At the same time, the rapid hi-tech product development urges entrepreneurial orientation to adopt the coordination-type communication in product development activities for internal new hi-tech product success.

Entrepreneurial Orientation–Communication Strategies–External New Product Success

Entrepreneurial orientation commences marketing communication strategies of creative marketing leadership and brand salience to accomplish external new hi-tech product success. These marketing communication strategies focus on marketing information activities to attain new hi-tech product market success (Reid, 2005).

Creative marketing leadership is the inspiration-type communication through novel and innovative marketing leadership to motivate creative product development (Allen, 2007; Im & Workman, 2004). Concerning creativity and innovation, creativity is related to the production of novel and useful ideas, and innovation is associated with the display or adoption of useful ideas and idea implementation (Scott & Bruce, 1994). As a result, creative marketing leadership taps the implementation of useful unique novel marketing ideas in new product development. Apart from Knight's (2000) investigation that the firms tend to adopt the marketing leadership strategy, the further research suggests that entrepreneurial orientation may adhere to marketing inputs and skills (Atuahene-Gima & Ko, 2001) in new product development that cover market research, sales force, distribution, advertising, and customer service for market performance (Atuahene-Gima, 1996) and specifies marketing leadership to heighten the product-market focus (Cooper & Kleinschmidt, 1996; Knight, 2000).

Given creative marketing leadership, the satisfactory amount of marketing inputs and skills is employed to implement innovative state-of-the-art marketing functions in market research, sales force, distribution, advertising, and customer service for new product market success (Cooper & Kleinschmidt, 1987; Di Benedetto, 1999). The emotional intelligence survey of entrepreneurs shows the inspirational leadership measurement (Rhee & White, 2007). The inspiration-type communication motivates creativity (Allen, 2007). Meanwhile, entrepreneurial orientation has the inclination to motivate creativity and is engaged in new products to result in economic gains (Wiklund & Shepherd, 2003). In this regard, entrepreneurial orientation centers on innovative marketing strategy (Falbe, Dandridge, & Kumar, 1998), and the firms are based on entrepreneurial orientation to implement creative marketing leadership as their communication strategy to achieve new hi-tech product market success. In other words, creative marketing leadership that underlies entrepreneurial orientation fully executes creative marketing functions and demonstrates the motivation in the interpersonal communication, which appears in inspirational communication processes for the purpose of external new hi-tech product success (Atuahene-Gima 1996; Bambacas & Patrickson, 2008; Luo & Donthu, 2006).

Brand salience is related to a brand name, which is one of physical product characteristics (Kotler & Armstrong 1989; Gardner & Levy, 1955). Likewise, organizational culture influences branding to win success (Chernatony & Cottam, 2008) because organizational values provide behavioral norms to impact branding. In new product development, innovation activities are associated with the brand (Ireland, Hitt, Camp, & Sexton, 2001) to decide branding (Ambler & Styles, 1996). Thus, the brand is one part of product development decisions (Varadaraja, 1999). The function of a brand is like a name to increase product value by virtue of the asset perspective and relevant competitive advantage (Crimmins, 2000). This merit seems conspicuous in the brand of ASUS to create value and fosters new product development (Chin, Tsao, & Chi 2005). ASUS is salient in notebook computers and mobile phones.

The communication strategy of brand salience is associated with the depth of brand awareness pertinent to customers' ability to recall or recognize the brand in a specific product category (Keller, 1999, 2001; O'Reilly, 2005) and inclusive of brand recognition and recall (Yoo & Donthu, 2001) as information dispatches (Hutt, Reingen, & Ronchetto, 1988). Ostensibly, brand salience carries one aspect of brand awareness. The recall of the brand name in one product category is a sort of brand awareness (Hutchinson, Raman, & Mantrala, 1994). To sum up, brand salience is the coordination-type communication that has information transfer to get deep brand awareness (Harris & Chernatony, 2001; Morelli, Eppinger, & Gulati, 1995).

Traditionally, the intensive exposure of a brand like advertising releases product-based information and excels in customers' ability to recall the brand by the prominence of the brand in memory (Alba & Chattopadhyay, 1986). Meanwhile, advertising conduces to brand recall and raises brand salience (Higie & Sewall, 1991). Moreover, brand salience occupies customers' first recall (top-of-mind awareness) (Keller, 2001; Read & Wittenbraker, 1998). Based on a specific product category, brand awareness refers to customers' ability to recall or recognize a brand, but brand salience means the first level of customers' ability to recall or recognize a brand as top-of-mind awareness. As entrepreneurial orientation is devoted to advertising in product innovation processes in order to see the market position (Covin, 1991), explicitly, entrepreneurial orientation is inclined to use advertising and increase brand salience. In fact, the firms continually introduce new products in the marketplace and provoke brand awareness to obtain competitive advantage (Covin & Miles, 1999). Brand salience is the primary communication strategy to get the first-level brand awareness. As such, brand salience stimulates customers' top of mind or mind shares and enhances sales (Keller, 2001) as well as profits (Song, Di Benedetto, & Song, 2000). Thus, entrepreneurial orientation implements brand salience as the coordination-type communication strategy to win new hi-tech product market performance.

The afore-mentioned marketing communication strategies express that entrepreneurial orientation implements creative marketing leadership and brand salience to achieve external new hi-tech product success. When entrepreneurial orientation commences the inspiration-type marketing communication strategy of creative marketing leadership, hi-tech firms motivate or inspire creative new product development for external new hi-tech product market success. As entrepreneurial orientation implements the coordination-type marketing communication strategy of brand salience, the firms emphasize the top-level brand awareness to gain external new hi-tech product market success.

NEW PRODUCT SUCCESS

New product success includes internal and external new product performance (Tatikonda and Montoya-Weiss, 2001). Internal new product performance is related to

operations success that transforms inputs into outputs, including quality, cost, and speed. External new product performance is associated with market performance to achieve market goals, consisting of customer satisfaction, sales, profitability, and market shares. Resources and products compose financial returns. Resources and products are proposed to be the two sides of the same coin. By settings, entrepreneurial orientation is the resource to create new hi-tech product value and earn profits.

Entrepreneurial orientation as the resource executes operations and marketing communication strategies to obtain new hi-tech product success. The operations and marketing communication strategies mediate the relationship between entrepreneurial orientation and new hi-tech product success. There are three-type communication strategies in operations and marketing communication strategies. Alike, the communication strategies impact new product performance. The knowledge-type communication strategy like innovative information creates new organizational knowledge to favor product quality, low product cost, and innovation speed. The coordination-type communication strategy such as cross-functional coordination, advanced supplier communication methods, message clarity, and brand salience wins internal or external new product performance. The inspiration-type communication strategy like creative marketing leadership contains marketing information to motivate new product market success. Comparatively, hi-tech firms adopt the coordination-type communication strategies that commence information transfer and task integration in order to accomplish comprehensive new hi-tech product success.

CONTINGENCY THEORY

Contingency theory asserts that the effect of one variable on another depends on some third variable (Donaldson, 2000). That is, contingency theory includes three-type variables: contingency variables, response variables, and performance variables (Zeithaml, Varadarajan, & Zeithaml, 1988). Contingency variables usually represent environmental situations. Response variables mean organizational actions to respond to environmental contingencies. Performance variables are dependent variables to represent specific effectiveness and evaluate the fit between contingency variables and response variables. In the present study, contingency variables include technological and market uncertainties. Response variables are communication strategies. Performance variables comprise internal and external new hi-tech product performance. In line with contingency theory, the fit between environmental uncertainties and communication strategies achieves better new product performance. In a similar vein, it is like the perspective of strategic management. Strategies respond to environmental contingencies to achieve better performance and represent the effective selection of strategies in the face of environmental challenges (Venkatraman & Camillus, 1984). Given contingency theory, the fit appears between the responsive strategy and environmental contingency to formulate strategic management and accomplish better performance.

On the condition of environmental contingencies, the selection of responsive strategies intends to obtain better new product performance (Amason, 2011; Zajac, Kraatz, & Bresser, 2000). As to environmental contingencies, the current attention ascertains technological and market uncertainties. Uncertainties mean the environments that are short of task knowledge or sufficient task information to attain new hi-tech product performance (Tatikonda & Montoya-Weiss, 2001). Information is the source of knowledge acquisitions (Huber, 1991). Technological uncertainties moderate the relationship between operations communication strategies and new product operations performance because technology affects new product production (Bardhan, Whitaker, & Mithas, 2006). Market uncertainties moderate the relationship between marketing communication strategies and new product market

performance given that market factors influence marketing activities (Cavusgil & Zou, 1994). Clearly, uncertainties influence the association between communication strategies and new hi-tech product performance. As a result, it is necessary to distinguish the moderating effect of each uncertainty to arrive at better new hi-tech product performance.

TECHNOLOGICAL UNCERTAINTIES

Technological uncertainties include technology novelty and technology turbulence. Technology novelty refers to technology newness and increases technological uncertainties (Tatikonda & Montoya-Weiss, 2001). Due to technology novelty, the low familiarity of technology lacks the knowledge and information to develop and produce successful new hi-tech products. Hence, hi-tech firms respond to technological uncertainties by operations communication strategies to obtain better internal new hi-tech product performance. Innovative information generates new knowledge to enhance new product operations success. Additionally, cross-functional coordination coordinates information and tasks to speed up new product development, which gets better internal new hi-tech product performance. Advanced supplier communication methods provide rapid information and update knowledge that contributes to internal new hi-tech product performance. Message clarity sends accurate messages and coordinates current information to attain better new hi-tech product operations performance. Thus, in high technology novelty, the greater operations communication strategies will enhance better internal new hi-tech product operations performance.

Technology turbulence is associated with the extent of the change in new product technologies (Moorman & Miner, 1997). New product technologies consist of R&D and production technologies (Tatikonda & Montoya-Weiss, 2001). With technology turbulence, new product technologies rapidly change. Technological turbulence is in the unstable state that lacks knowledge and sufficient information to develop new hi-tech products. In high technology turbulence, more innovative information provides more sufficient information and knowledge to favor new product development and internal new hi-tech product performance. Cross-functional coordination transfers task information and integrates tasks to coordinate knowledge and increase internal new hi-tech product performance. Advanced supplier communication methods promote rapid information exchange to generate more sufficient information and knowledge for new product operations performance. Message clarity sends precise information to reduce unstable information and favor internal new hi-tech product performance. Therefore, technology turbulence positively moderates the relationship between operations communication strategies and new hi-tech product operations performance.

In conclusion, in high technological uncertainties, hi-tech firms need to respond such uncertainties and adopt the greater operations communication strategies to reach better internal new hi-tech product performance. The operations communication strategies include innovative information, cross-functional coordination, advanced supplier communication methods, and message clarity.

MARKET UNCERTAINTIES

Market uncertainties comprise market competition, market turbulence, and market potential to mention the moderating effect of insufficient external information and knowledge (Slater & Narver, 1994; Song & Parry, 1997). The intensity of market competition is related to the interfirm rivalry, the number of competitors, and 4P-activities (Lee & O'Connor, 2003; Song & Parry, 1997). The intensive interfirm competition needs more information or knowledge to understand competitors' actions. The more competitors arouse the necessity to be the top performer. The rival 4P activities need more marketing information to compete and

respond to competitors' actions. Therefore, the marketing communication strategy of the greater creative marketing leadership owns more creative marketing information, which will achieve better new hi-tech product market performance. The greater brand salience coordinates the greater spread of brand information and sufficiently wins better new hi-tech product market performance (Romaniuk & Sharp, 2003). In high market competition, the greater creative marketing leadership and brand salience will increase new hi-tech product market performance.

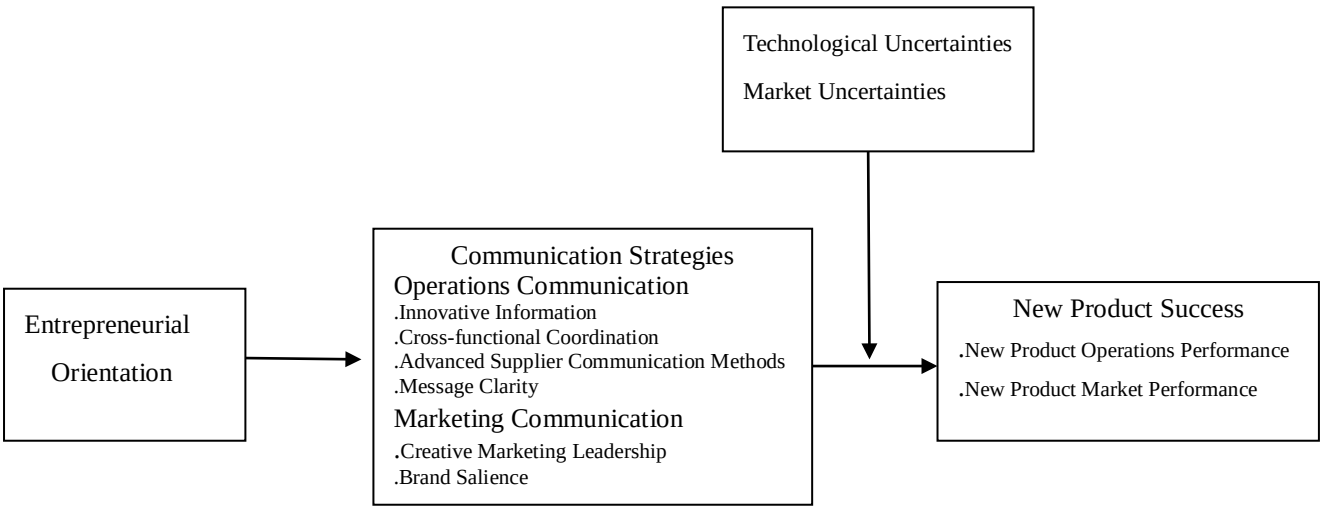
Market turbulence pertains to the change rate of the composition of customers and their preferences (Moorman & Miner, 1997). The notion of market turbulence is related to the concept of customer uncertainties and demand uncertainties that represent the change of customers and their preferences. In high market turbulence, the rapid change of customers and their preferences portrays faster customer information and shorter product life cycles to develop new products. Hence, the greater creative marketing leadership inspires new product development to attain better new hi-tech product market performance (Colbert, 2003). The greater brand salience conveys larger brand awareness information to arrive at better new hi-tech product market performance (Malhotra, Peterson, & Kleiser 1999). In high market turbulence, the marketing communication strategies of the greater creative marketing leadership and brand salience will benefit better new hi-tech product market performance.

Market potential confines to the attractiveness of the target market that shows market size and market growth to reflect customer needs and product importance in the target market (Song & Parry, 1997). Concerning market growth, it is regarded as the expanding change in the total market size. To this end, market potential means the increasing potential demand for new products in the target market. Meanwhile, market potential links to market growth and demand intensity. Therefore, market potential covers large rapid customer growing information to show market uncertainties. Given high market potential, the greater creative marketing leadership provides more creative marketing information to develop new products and get better new hi-tech product market success (Riege & Perry, 2000). The greater brand salience coordinates more brand information to win better new hi-tech product market performance (Ataman, Mela, & Heerde, 2008; Keller & Lehmann, 2006). In high market potential, the marketing communication strategies of the greater creative marketing leadership and brand salience will attain better new hi-tech product market performance.

In market uncertainties such as market competition, market turbulence, and market potential, the greater creative marketing leadership and brand salience achieve better new hi-tech product market performance. In this regard, market uncertainties influence marketing communication strategies like creative marketing leadership and brand salience to obtain better external new hi-tech product market performance. Although market knowledge may influence the knowledge-type marketing communication strategy for new product market success, there is no knowledge-type communication strategy to adapt for better external new hi-tech product performance.

On the basis of the above literature review, the theoretic model (Figure 1) is built about entrepreneurial orientation, communication strategies, and new hi-tech product success.

Figure 1: Entrepreneurial Orientation, Communication, and New Product Success



RESEARCH FINDINGS

As a resource, entrepreneurial orientation implements organizational communication strategies to attain new hi-tech product success. In the research stream, entrepreneurial orientation contributes to new product success (Boso, Cadogan, & Story, 2012). Communication leads to new product success as well (Brown & Eisenhardt, 1995). Little understanding considers their relationship. Following the resource-based view, it suggests that entrepreneurial orientation should implement communication strategies to arrive at new hi-tech product success.

The organizational values of entrepreneurial orientation proactively undertake risky profitable new product development. As new product development contains risky activities and needs many inputs, entrepreneurial orientation comprises the values of innovation, manageable risk-taking, and proactiveness. Certainly, entrepreneurial orientation is proactively dedicated to new products and eventually earns profits in the hi-tech sector. The hi-tech sector emphasizes new product development, and new products are very important to the financial returns of the hi-tech sector (Li & Atuahene-Gima, 2001). Thus, hi-tech firms adopt the resource of entrepreneurial orientation to obtain new hi-tech product success.

Entrepreneurial orientation achieves internal and external new hi-tech product success. In this course, communication strategies are the route to link entrepreneurial orientation and new product success. With respect to internal new hi-tech product success, entrepreneurial orientation implements operations communication strategies of innovative information, cross-functional coordination, advanced supplier communication methods, and message clarity to get new product operations success. Innovative information is the knowledge-type communication strategy. Others are the coordination-type communication strategies. Concerning external new hi-tech product success, entrepreneurial orientation commences marketing communication strategies of creative marketing leadership and brand salience to reach new hi-tech product market success. Among communication strategies, the creative marketing leadership strategy is the only communication strategy to motivate creativity and belongs to the inspiration-type communication strategy. Brand salience is the coordination-type communication strategy. Considering both internal and external new hi-tech product success, entrepreneurial orientation primarily implements the coordination-type communication strategies to achieve new hi-tech product success. On the basis of the

coordination-type communication, entrepreneurial orientation hinges on information transfer to act proactively and take manageable risks to successfully integrate new product development.

In line with contingency theory, strategic management debates environmental contingencies and communication strategies for better new hi-tech product performance. Technological and market uncertainties play the moderating role to influence the relationship between communication strategies and new hi-tech product performance. Because technological and market uncertainties have insufficient task knowledge and information, they have the moderating effects to adjust the relationship between communication strategies and new hi-tech product performance. Technological uncertainties moderate the relationship between operations communication strategies and internal new hi-tech product performance. Such high technological uncertainties lack insufficient technological knowledge and information to develop new products. Especially, hi-tech new products don't have enough technological knowledge and information. In high technological uncertainties, hi-tech firms strengthen operations communication strategies of the greater innovative information, cross-functional coordination, advanced supplier communication methods, and message clarity to enhance new product operations performance. That is, when technological environments lack knowledge and sufficient information, hi-tech firms are inclined to adopt the greater operations communication strategies and get new product development knowledge and information to increase new hi-tech product operations performance.

Market uncertainties lack market knowledge and sufficient market information, which moderate the relationship between marketing communication strategies and external new hi-tech product performance. Market competition, market turbulence, and market potential result in the lack of market knowledge and information to develop new hi-tech products in short product life cycles. In high market uncertainties, the greater creative marketing leadership and brand salience as marketing communication strategies to provide more marketing information underlying new product markets will increase new hi-tech product market performance. Given high market uncertainties, the more marketing information will benefit new hi-tech product market performance.

DISCUSSION

The goal of this study attempts to promote the strategic management literature through new product development underlying the resource-based view and contingency theory. The research context is the hi-tech sector. In the resource-based view, entrepreneurial orientation is the cultural resource to implement operations and marketing communication strategies that achieve internal and external new hi-tech product performance. That is, entrepreneurial orientation executes the operations communication strategies of innovative information, cross-functional coordination, advanced supplier communication methods, and message clarity to attain internal new hi-tech product performance. In this respect, innovative information is the knowledge-type communication; others are the coordination-type communication. Entrepreneurial orientation mainly rests on the coordination-type communication to reach new hi-tech product operations performance. On the other hand, entrepreneurial orientation commences the marketing communication strategies of creative marketing leadership and brand salience to obtain new hi-tech product market performance. Creative marketing leadership is the inspiration-type communication to result in external new hi-tech product performance. Brand salience is the coordination-type communication to bring about new hi-tech product market performance. As a result, entrepreneurial orientation typically implements the coordination-type communication to arrive at internal and external new hi-tech product performance. Meanwhile, this study is the pioneering work to distinguish

how entrepreneurial orientation makes use of operations and marketing communication strategies to attain internal and external new hi-tech product performance.

With regard to technological and market uncertainties in line with contingency theory, technological uncertainties positively moderate the relationship between operations communication strategies and internal new hi-tech product performance. Market uncertainties positively moderate the relationship between marketing communication strategies and external new hi-tech product performance. The lack of technological and market knowledge and information influences the relationship between communication strategies and new hi-tech product performance from the operations and market sides. It means that environmental factors of technology and market are the moderators between communication strategies and new product performance (Burns & Stalker, 1961). The fit between the environmental contingency and the communication strategy shows better new hi-tech product performance.

Concerning the context of the hi-tech sector, it has short product cycles to tackle entrepreneurial orientation, communication, and new product development. So far, the research stream hasn't yet indicated that how entrepreneurial orientation implements communication strategies to arrive at new product performance in the context of the hi-tech sector. Considering the importance of new product development in the hi-tech sector, the present study adopts the resource of entrepreneurial orientation to implement communication strategies for new hi-tech product performance. Further, communication strategies are classified into operations and marketing communication strategies for internal and external new hi-tech product performance. In the management of new product development processes, technological and market factors are not ignored. Technological uncertainties and market uncertainties are environmental moderators in the relationships between communication strategies and new hi-tech product performance. From the perspective of strategic management, hi-tech firms encounter technological and market uncertainties to adjust communication strategies to achieve new hi-tech product performance.

Theoretic Contributions And Future Research

This study contributes to communication theory through new product development. According to the resource-based view and contingency theory, a theoretic model is built for new product development. The theoretic model advances the theoretic development and contributions.

In the resource-based view, entrepreneurial orientation is the resource to successfully develop new products and result in new hi-tech product success. Particularly, communication strategies bridge the resource and new hi-tech product success (Allen, 2007; Barney, 1991). In the present study, entrepreneurial orientation implements operations communication strategies to achieve internal new hi-tech product success. On the other hand, entrepreneurial orientation implements marketing communication strategies to attain external new hi-tech product success. Communication strategies *per se* are the substantial strategy to link entrepreneurial orientation and new hi-tech product success. This respect is crucial to the literature. As the importance of operations and marketing communication strategies, the resultant new hi-tech product success is classified into internal and external new product success. Thus, future research may expand the contributions to use the different context such as international business or service development to explore the relationship between entrepreneurial orientation, communication, and performance.

In contingency theory, high technological and market uncertainties are environmental contingencies to positively moderate the relationship between communication strategies and new hi-tech product performance toward the fit like the perspective of strategic management

in the face of environmental challenges (Zeithaml, Varadarajan, & Zeithaml, 1988). Technological and market uncertainties are contingency variables. Communication strategies are response variables. New product performance is related to the performance variable. From the operations side, technological uncertainties represent insufficient technological knowledge to develop and produce new hi-tech products. When technological uncertainties are high, hi-tech firms implement the greater operations communication strategies that deploy better development and production information about new products to achieve better internal new hi-tech product performance. Market uncertainties mean that hi-tech firms don't have enough market knowledge and information to develop new hi-tech products. When market uncertainties are high, hi-tech firms need to implement marketing communication strategies that disseminate marketing information to obtain better external new hi-tech product performance. It contributes to the literature of contingency theory and strategic management because technological and market uncertainties confront hi-tech firms for them to adjust communication strategies and accomplish better internal and external new hi-tech product performance. Future research may study the moderators of organizational contingencies (Zahay & Peltier, 2008).

Managerial Implications And Limitations

The research findings suggest that entrepreneurial orientation should implement communication strategies to obtain new hi-tech product success. It offers some implications for managers. First, entrepreneurial orientation implements operations communication strategies to arrive at internal new hi-tech success. Managers may think about this discovery to use operations communication strategies that transform inputs into new outputs in the context of the hi-tech sector. The research limitation hereby confines to the operations communication strategies to link entrepreneurial orientation and internal new hi-tech success in the hi-tech sector.

Second, entrepreneurial orientation implements marketing communication strategies to reach external new hi-tech product success. Managers may consider creative marketing leadership and brand salience strategies to promote new hi-tech product market success. The research limitation only contains marketing communication strategies of creative marketing leadership and brand salience.

Third, environmental contingencies of high market and technological uncertainties positively moderate the relationship between communication strategies and new hi-tech product performance. Managers should consider the moderating effect of environmental contingencies to adjust communication strategies for better new hi-tech product performance. The moderators are limited to technological and market uncertainties.

This study provides a theoretic model about entrepreneurial orientation, communication strategies, and new product success based on the literature. The empirical research is limited because it is hard to collect data from the supply side and the consumer side such as brand salience. Considerable researches are on the basis of the model through the literature (e.g., Bloch & Richins, 1983; Martin, Moritz, & Hall, 1999; Leary & Kowalski, 1990; Lefkowitz, 2010; Miller & Norman, 1979 ; Nakata & Sivakumar, 1996; Nezu, 1987; Russell & Stone, 2002; Seuring & Muller, 2008; Smith, Busi, Ball, & Meer, 2008). Likewise, the present study employs the literature to establish a theoretic model.

CONCLUSION

Although entrepreneurial orientation and communication both contribute to new product success, the attention to understand their relationship is very limited. This study hinges on the

resource-based view and contingency theory to explore their relationships and build a theoretic model. According to the resource-based view, entrepreneurial orientation is the organizational cultural resource to implement communication strategies and arrive at new product success in the context of the hi-tech sector. The operations communication strategies include innovative information, cross-functional coordination, advanced supplier communication methods, and message clarity for new hi-tech product operations success. On the other hand, the marketing communication strategies comprise creative marketing leadership and brand salience for new hi-tech product market success. Furthermore, the operations and marketing communication strategies cover the three-type communication: knowledge, coordination, and inspiration. Meanwhile, new product operations performance is the internal success to give rise to new product market performance (Tatikonda & Montpya-Weiss, 2001).

On the basis of strategic management in line with contingency theory, in high technological and market uncertainties, hi-tech firms need to adjust communication strategies for better new hi-tech product performance. From technological contingencies, in high technological uncertainties, the firms strengthen operations communication strategies to achieve better new hi-tech product operations performance. From market contingencies, in high market uncertainties, the firms enhance marketing communication strategies to attain better new hi-tech product market performance. Accordingly, high technological and market uncertainties are environmental contingencies to positively moderate the relationship between communication strategies and new hi-tech product performance and thus show the strategic fit.

Given the importance of the theoretic model in the present study, future theoretic development and models may explore theoretic constructs about the above three types of communication in new product development and different contexts. Concerning strategic management about communication strategies, it may consider the moderators of organizational contingencies to achieve new product performance.

REFERENCES

Adam, E. E. (1983). Towards a Typology of Production and Operations Management Systems. *Academy of Management Review, 8*(3), 365-375.

Alba, J. W., & Chattopadhyay, A. (1986). Salience Effects in Brand Recall. *Journal of Marketing Research, XXIII*(4), 363-369.

Allen, T. J. (2007). Architecture and Communication among Product Development Engineers. *California Management Review, 49*(2), 23-41.

Amason, A. (2011). *Strategic Management: From Theory to Practice*. New York: Routledge.

Ambler, T., & Styles, C. (1996). Brand Development versus New Product Development: Towards a Process Model of Extension Decision. *Marketing Intelligence & Planning, 14*(7), 10-19.

Ataman, M. B., Mela, C. F., & Heerde, H. J. v. (2008). Building Brands. *Marketing Science, 27*(6), 1036-1054.

Atuahene-Gima, K. (1996). Market Orientation and Innovation. *Journal of Business Research, 35*(2), 93-103.

Atuahene-Gima, K. (2003). The Effects of Centrifugal and Centripetal Forces on Product Development Speed and Quality: How Does Problem Solving Matter? *Academy of Management Journal, 48*(3), 359-373.

Atuahene-Gima, K., & Ko, A. (2001). An Empirical Investigation of the Effect of Market Orientation and Entrepreneurship Orientation Alignment on Product Innovation. *Organization Science, 12*(1), 54-74.

Atuahene-Gima, K., & Murray, J. Y. (2004). Antecedents and Outcomes of Marketing Strategy Comprehensiveness. *Journal of Marketing, 68,* 33-46.

Avlonitis, G. J., Kouremenos, A., & Tzokas, N. (1994). Assessing the Innovativeness of Organization and Its Antecedents: Project Innovstrat. *European Journal of Marketing, 28*(11), 5-28.

Badir, Y. F., & Buechel, B. (2007). *The Role of Organization Design and Communication on NPD Project*

Alliance Performance. Paper presented at the Academy of Management Annual Meeting, Philadelphia, USA.

Bambacas, M., & Patrickson, M. (2008). Interpersonal Communication Skills that Enhance Organizational Commitment. *Journal of Communication Management, 12*(1), 51-72.

Bardhan, I., Whitaker, J., & Mithas, S. (2006). Information Technology, Production Process Outsourcing, and Manufacturing Plant Performance. *Journal of Management Information Systems, 23*(2), 13-40.

Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management, 17*(1), 99-120.

Bloch, P. H., & Richins, M. L. (1983). A Theoretical Model for the Study of Product Importance Perceptions. *Journal of Marketing, 47*(3), 69-81.

Boso, N., Cadogan, J. W., & Story, V. M. (2012). Complementary Effect of Entrepreneurial and Market orientations on Export New Product Success under Differing Levels of Competitive Intensity and Financial Capital. *International Business Review, 21*(4), 667-681.

Brockman, B. K., & Morgan, R. M. (2003). The Role of Existing Knowledge in New Product Innovativeness and Performance. *Decision Sciences, 34*(2), 385-419.

Brown, S. L., & Eisenhardt, K. M. (1995). Product Development: Past Research, Research Findings, and Future Directions. *Academy of Management Review, 20*(2), 343-378.

Brown, A. D., & Starkey, K. (1994). The Effect of Organizational Culture on Communication and Information. *Journal of Management Studies, 31*(6), 807-828.

Brown, J. W., & Utterback, J. M. (1985). Uncertainty and Technical Communication Patterns. *Management Science, 31*(3), 301-311.

Burns, T., & Stalker, G. M. (1961). *The Management of Innovation*. London: Tavistock Publications.

Carr, A. S., & Kaynak, H. (2007). Communication Methods, Information Sharing, Supplier Development and Performance: An Empirical Study of Their Relationships. *International Journal of Operations & Production Management, 27*(4), 346-370.

Cavusgil, S. T., & Zou, S. (1994). Marketing Strategy-Performance Relationship: an Investigation of the Empirical Link in Export Market Ventures. *Journal of Marketing, 58*(1), 1-21.

Chen, C.-W., Shen, C.-C., & Chiu, W.-Y. (2007). Marketing Communication Strategies in Support of Product Launch: An Empirical Study of Taiwanese High-Tech Firms. *Industrial Marketing Management, 36*(8), 1046-1056.

Chernatony, L. d., & Cottam, S. (2008). Interactions between Organizational Cultures and Corporate Brands. *Journal of Product and Brand Management, 17*(1), 13-24.

Chin, C. L., Tsao, S. M., & Chi, H. Y. (2005). Trademark Value and Accounting Performance: Analysis from Corporate Life Cycle. *Journal of American Academy of Business, 7*(1), 106-112.

Colbert, F. (2003). Entrepreneurship and Leadership in Marketing the Arts. *International Journal of Arts Management, 6*(1), 30-39.

Cooper, R. (2000). Doing it Right: Winning with New Products. *Ivey Business Journal, 64*(10), 54-60

Cooper, R. G., & Kleinschmidt, E. J. (1987). Success Factors in Product Innovation. *Industrial Marketing Management, 16*(3), 215-223.

Cooper, R. G., & Kleinschmidt, E. J. (1996). Winning Businesses in Product Development: The Critical Success Factors. *Research Technology Management, 39*(4), 18-29.

Covin, J. G. (1991). Entrepreneurial versus Conservative Firms: A Comparison of Strategies and Performance. *Journal of Management Studies, 28*(5), 439-462.

Covin, J. G., & Miles, M. P. (1999). Corporate Entrepreneurship and the Pursuit of Competitive Advantage. *Entrepreneurship Theory and Practice, 23*(3), 47-60.

Crimmins, J. C. (2000). Better Measurement and Management of Brand Value. *Journal of Advertising Research, 40*(6), 136-144.

Davis, D., Morris, M., & Allen, J. (1991). Perceived Environmental Turbulence and Its Effect on Selected Entrepreneurship, Marketing, and Organizational Characteristics in Industrial Firms. *Journal of the Academy of Marketing Science, 19*(1), 43-51.

Di Benedetto, C. A. (1999). Identifying the Key Success Factors in New Product Launch. *Journal of Product Innovation Management, 16*(6), 530-544.

Donaldson, L. (2000). *The Contingency Theory of Organizations*. Thousand Oaks: Sage Publications, Inc.

Falbe, C. M., Dandridge, T. C., & Kumar, A. (1998). The Effect of Organizational Context on Entrepreneurial Strategies in Franchising. *Journal of Business Venturing, 14*(1), 125-140.

Gardner, B. B., & Levy, S. (1955). The Product and the Brand. *Harvard Business Review, March-April*, 33-39.

Goktan, A. B., & Miles, G. (2011). Innovation Speed and Radicalness: Are They Inversely Related? *Management Decision, 49*(4), 533 - 547.

Graham, M. B., & Thralls, C. (1998). Connections and Fissures: Discipline Formation in Business Communication. *The Journal of Business Communication, 35*(1), 7-13.

Harris, F., & Chernatony, L. d. (2001). Corporate Branding and Corporate Brand Performance. *European Journal of Marketing, 35*(3/4), 441-456.

Helfat, C. E., & Peteraf, M. A. (2003). The Dynamic Resource-Based View: Capability Lifecycles. *Strategic Management Journal, 24*, 997-1010.

Higie, R. A., & Sewall, M. A. (1991). Using Recall and Brand Preference to Evaluate Advertising Effectiveness. *Journal of Advertising Research, 31*(2), 56-63.

Hsinchu Science Park 2013, http://www.sipa.gov.tw/english/index.jsp, [30-June-2013]

Hu, Q., & Li, X. (2006). Special Issue for 2004 Annual Conference of IS/IT Issues in Asia-Pacific. *Journal of Global Information Management, 14*(1), i-iii.

Huber, G. P. (1991). Organizational Learning: The Contributing Processes and the Literatures. *Organization Science, 2*(1), 88-115.

Hutchinson, J. W., Raman, K., & Mantrala, M. K. (1994). Finding Choice Alternatives in Memory: Probability Models of Brand Name Recall. *Journal of Marketing Research, XXXI*, 441-461.

Hutt, M. D., Reingen, P. H., & Ronchetto, J. R. (1988). Tracing Emergent Processes in Marketing Strategy Formation. *Journal of Marketing, 52*(1), 4-19.

Im, S., & Workman Jr, J. P. (2004). Market Orientation, Creativity, and New Product Performance in High-Technology Firms. *Journal of Marketing, 68*(2), 114-132.

Ireland, R. D., Hitt, M. A., Camp, S. M., & Sexton, D. L. (2001). Integrating Entrepreneurship and Strategic Management Actions to Create Firm Wealth. *Academy of Management Executive, 15*(1), 49-63.

Ireland, R. D., Hitt, M. A., & Sirmon, D. G. (2003). A Model of Strategic Entrepreneurship. *Journal of Management, 29*(6), 963-989.

Joglekar, N. R., & Rosenthal, S. R. (2003). Coordination of Design Supply Chains for Bundling Physical and Software Products. *Journal of Product Innovation Management, 20*, 374-390.

Kasper, H. (2002). Culture and Leadership in Market-Oriented Service Organizations. *European Journal of Marketing, 36*(9/10), 1047-1057.

Keller, K. L. (1999). Managing Brands for the Long Run: Brand Reinforcement and Revitalization Strategies. *California Management Review, 41*(3), 102-124.

Keller, K. L. (2001). Building Customer-Based Brand Equity. *Marketing Management, 10*(2), 15-19.

Keller, K. L., & Lehmann, D. R. (2006). Brands and Branding: Research Findings and Future Priorities. *Marketing Science, 25*(6), 740-759.

Knight, G. (2000). Entrepreneurship and Marketing Strategy: The SME Under Globalization. *Journal of International Marketing, 8*(2), 12-32.

Kotler, P., & Armstrong, G. (1989). Principles of Marketing. In (4th ed.). New Jersey: Prentice-Hall, Inc.

Lambe, C. J., Spekman, R. E., & Hunt, S. D. (2002). Alliance Competence, Resources, and Alliance Success: Conceptualization, Measurement, and Initial Test. *Journal of the Academy of Marketing Science, 30*(2), 141-158.

Leary, M. R., & Kowalski, R. M. (1990). Impression Management: A Literature Review and Two-Component Model. *Psychological Bulletin, 107*(1), 34-47.

Lee, W.-H., & Yang, W.-T. (2000). The Cradle of Taiwan High Technology Industry Development - Hsinchu Science Park. *Technovation, 20*(1), 55-59.

Lefkowitz, J. (2010). The Role of Interpersonal Affective Regard in Supervisory Performance Ratings: A Literature Review and Proposed Causal Model. *Journal of Occupational and Organizational Psychology, 73*(1), 67-85.

Li, H., & Atuahene-Gima, K. (2001). Product Innovation Strategy and the Performance of New Technology Ventures in China. *The Academy of Management, 44*(6), 1123-1134.

Luo, X., & Donthu, N. (2006). Marketing's Credibility: A Longitudinal Investigation of Marketing Communication Productivity and Shareholder Value. *Journal of Marketing, 70*, 70-91.

Madhavan, R., & Grover, R. (1998). From Embedded Knowledge to Embodied Knowledge: New Product Development as Knowledge Management. *Journal of Marketing, 62*(4), 1-12.

Malhotra, N. K., Peterson, M., & Kleiser, S. B. (1999). Marketing Research: A State-of-the-Art Review and Directions for the Twenty-First Century. *Journal of the Academy of Marketing Science, 27*(2), 160-183.

Martin, K. A., Moritz, S. E., & Hall, C. R. (1999). Imagery Use in Sport: a Literature Review and Applied Model. *The Sport Psychologist, 13*(3), 245-268.

Masakure, O., Henson, S., & Cranfield, J. (2009). Performance of Microenterprises in Ghana: a Resource-based View. *Journal of Small Business and Enterprise Development, 16*(3), 466-484.

Miller, I. W., & Norman, W. H. (1979). Learned Helplessness in Humans: A Review and Attribution-Theory Model. *Psychological Bulletin, 86*(1), 93-118.

Miller, D., & Shamsie, J. (1996). The Resource-Based View of the Firm in Two Environments: The Hollywood Film Studios From 1936 to 1965. *Academy of Management Journal, 39*(3), 519-543.

Morelli, M. D., Eppinger, S. D., & Gulati, R. K. (1995). Predicting Technical Communication in Product Development. *IEEE Transactions on Engineering Management, 42*(3), 215-222.

Nakata, C., & Sivakumar, K. (1996). National Culture and New Product Development: An Integrative Review. *Journal of Marketing, 60*(1), 61-72.

Newbert, S. L. (2007). Empirical Research on the Resource-based View of the Firm: An Assessment and Suggestions for Future Research. *Strategic Management Journal, 146*, 121-146.

Nezu, A. M. (1987). A Problem-Solving Formulation of Depression: A Literature Review and Proposal of a Pluralistic Model. *Clinical Psychology Review, 7*(2), 121-144.

Nonaka, I. (1994). A Dynamic Theory of Organizational Knowledge Creation. *Organization Science, 5*(1), 14-37.

Oaklay, P. (1996). High-tech NPD Success through Faster Overseas Launch. *European Journal of Marketing, 30*(8), 75-91.

O'Reilly, D. (2005). Cultural Brands/Branding Cultures. *Journal of Marketing Management, 21*, 573-588.

Park, Y. S., & Kim, B. S. K. (2008). Asian and European American Cultural Values and Communication Styles among Asian and European American College Students. *Cultural Diversity and Ethnic Minority Psychology, 14*(1), 47-56.

Penrose, E. T. (1960). The Growth of the Firm-A Case Study: The Hercules Powder Company. *Business History Review, 34*, 1-23.

Read, B., & Wittenbraker, J. (1998). How First Commerce Researched Branding to Make Disparate Customer Groups Profitable. *Journal of Retail Banking Services, XX*(3), 21-27.

Reid, M. (2005). Performance Auditing of Integrated Marketing Communication (IMC) Actions and Outcomes. *Journal of Advertising, 34*(4), 41-54.

Rhee, K. S., & White, R. J. (2007). The Emotional Intelligence of Entrepreneurs. *Journal of Small Business and Entrepreneurship, 20*(4), 409-426.

Riege, A. M., & Perry, C. (2000). National Marketing Strategies in International Travel and Tourism. *European Journal of Marketing, 34*(11/12), 1290-1305.

Rico, R., Sanchez-Manzanares, M., Gul, F., & Gibson, C. (2008). Team Implicit Coordination Processes: A Team Knowledge-based Approach. *Academy of Management Review, 33*(1), 163-184.

Rink, D. R., & Swan, J. E. (1979). Product Life Cycle Research: A Literature Review. *Journal of Business Research, 7*(3), 219-242.

Romaniuk, J., & Sharp, B. (2003). Measuring Brand Perceptions: Testing Quantity and Quality. *Journal of Targeting, Measurement and Analysis for Marketing, 11*(3), 218-229.

Russell, R. F., & Stone, A. G. (2002). A Review of Servant Leadership Attributes: Developing a Practical Model. *Leadership & Organization Development Journal, 23*(3), 145 - 157.

Sanders, N. R. (2008). Pattern of Information Technology Use: The Impact on Buyer-Supplier Coordination and Performance. *Journal of Operations Management, 26*, 349-367.

Schendel, D. (1990). Introduction to the Special Issue on Corporate Entrepreneurship. *Strategic Management Journal, 11*, 1-3.

Scott, S. G., & Bruce, R. A. (1994). Determinants of Innovation Behavior: A Path Model of Individual Innovation in the Workplace. *Academy of Management Journal, 37*(3), 580-607.

Seuring, S., & Muller, M. (2008). From a Literature Review to a Conceptual Framework for Sustainable Supply Chain Management. *Journal of Cleaner Production, 16*(15), 1699-710.

Smith, M., Busi, M., Ball, P., & Meer, R. V. D. (2008). Factors Influencing an Organisation's Ability to Manage Innovation: A Structured Literature Review and Conceptual Model. *International Journal of Innovation Management, 12*(4), 655-676.

Song, X. M., Di Benedetto, C. A., & Song, L. Z. (2000). Pioneering Advantage in New Service Development: A Multi-Country Study of Managerial Perceptions. *Journal of Product Innovation Management, 17*, 378-392.

Song, X. M., Montoya-Weiss, M. M., & Schmidt, J. B. (1997). The Role of Marketing in Developing Successful New Products in South Korea and Taiwan. *Journal of International Marketing, 5*(3), 47-69.

Song, X. M., & Parry, M. E. (1997). A Cross-National Comparative Study of New Product Development Process: Japan and the United States. *Journal of Marketing, 61*(2), 1-18.

Tajeddini, K., Trueman, M., & Larsen, G. (2006). Examing the Effect of Market Orientation on Innovativeness. *Journal of Marketing Management, 22*, 529-551.

Tanzer, A. (2001). Made in Taiwan. *Forbes*, 64-66.

Tatikonda, M. V., & Montoya-Weiss, M. M. (2001). Integrating Operations and Marketing Perspectives of Product Innovation: The Influence of Organizational Process Factors and Capabilities on Development Performance. *Management Science, 47*(1), 151-172.

Varadarajan, P. R. (1999). Strategy Content and Process Perspectives Revisited. *Journal of the Academy of Marketing Science, 27*(1), 88-100.

Venkatraman, N., & Camillus, J. C. (1984). Exploring the Concept of "Fit" in Strategic Management. *Academy of Management Review, 9*(3), 513-525.

Wade, M., & Hulland, J. (2004). Review: The Resource-based View and Information Systems Research: Review, Extension, and Suggestions for Future Research. *MIS Quarterly, 28*(1), 107-142.

Wernerfelt, B. (1984). A Resource-Based View of the Firm. *Strategic Management Journal, 5*, 171-180.

Wiklund, J., & Shepherd, D. (2003). Knowledge-Based Resources, Entrepreneurial Orientation, and the Performance of Small and Medium-Sized Businesses. *Strategic Management Journal, 24*, 1307-1314.

Wilson, E. V., & Zigurs, I. (2001). Interpersonal Influence Goals and Computer-Mediated Communication. *Journal of Organizational Computing and Electronic Commerce, 11*(1), 59-76.

Woodward, J. (1965). *Industrial Organization: Theory and Practice*. Ely House, London W. I: Oxford University Press.

Wu, F., Yeniyurt, S., Kim, D., & Cavusgil, S. T. (2006). The Impact of Information Technology on Supply Chain Capabilities and Firm Performance: A Resource-Based View. *Industrial Marketing Management, 35*(4), 493-504.

Yoo, B., & Donthu, N. (2001). Developing and Validating a Multidimensional Consumer-Based Brand Equity Scale. *Journal of Business Research, 52*, 1-14.

Zahay, D. L., & Peltier, J. (2008). Interactive Strategy Formation: Organizational and Entrepreneurial Factors Related to Effective Customer Information Systems Practices in B2B Firms. *Industrial Marketing Management, 37*, 191-205.

Zahra, S. A., Nielsen, A. P., & Bogner, W. C. (1999). Corporate Entrepreneurship, Knowledge, and Competence Development. *Entrepreneurship Theory and Practice, 23*(3), 169-189.

Zajac, E. J., Kraatz, M. S., & Bresser, R. K. F. (2000). Modeling the Dynamics of Strategic Fit: A Normative Approach to Strategic Change. *Strategic Management Journal, 21*(4), 429-453.

INFORMAL SOCIAL NETWORKS IN ORGANIZATIONS: PROPOSITIONS REGARDING THEIR ROLE IN ORGANIZATIONAL BEHAVIOR OUTCOMES

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ABSTRACT

Informal social relationships have been discussed with scant attention in the literature. Researchers recognize their importance for organizational success. Yet it is the formal relationships that we know most about and not the informal ones. This paper uses Blau's (1964) theory of social exchange and offers an analysis of the importance of informal social relationships for the formation of social capital, knowledge transfer, organizational learning, communication, and leadership, and power.

Network theory examines the notion of an informal organization and demonstrates the importance of people's networks of relationships (Burt, 1995; Krackhardt & Kilduff, 1990). We assert that a large part of the work in an organization is done through social relationships and hence suggest that informal social structures offer much explanation of organizational phenomena such as social capital, knowledge transfer, organizational learning, communication, and leadership and power. In fact, informal social networks can potentially enable, but also constrain behavior at work through informal sub-communities of organizational members.

Any complex organization has sub-communities of people that are linked to each other through formal reporting structures and informal structures such as friendship networks. The social network is typically defined as "a specific set of relations among a defined set of persons with the additional property that the characteristics of these linkages as a whole may be used to interpret the social behavior of the individuals involved" (Mitchell, 1969, p.2)

Informal networks are those channels that carry information and connect organizational members through routes not prescribed by the organization. Networks provide its members with many opportunities such as tracing task information, work standards and expectation, rumors, and social norms. Common hobbies and activities as well as interpersonal attraction, among other factors, play an integral role in the development of informal social networks. It is not hard to imagine the factors that contribute to the formation and growth of informal social networks, which can include lunch schedules, family ties, social relationships and common origins.

The positions that people inside the informal network occupy are important to analyze. According to Lamertz and Aquino (2004), an informal network position analysis considers the dyadic relationships and adds informal relationships to the direct relationships specified in the network. These network positions aid in the explanation of

informal status and social power. Further, they indicate the distribution of resources and the relationships with potential partners in resource exchanges as well as members' associations with popular members of the network (Bonacich, 1987; Burt 1976; Freeman, 1979; Lamertz & Aquino, 2004).

Past research has provided some tools to investigate the network structures with regard to variations in exchange and social behaviors (Uehara, 1990). One of the traditional tools is network density, which is defined as the extent to which links between people actually exist (Mitchell, 1969). Another important tool is network intensity, which is the degree to which individuals are prepared to honor obligations, or feel free to exercise the rights implied in their link to some other person (Mitchell, 1969). These tools examine the communication among members, which incorporates informal pressures, normative pressures, and facilitation of exchange of support (Mitchell, 1969) According to Allen and colleagues, "the existence of informal social networks within organizations has long been recognized as important." (Allen, James, & Gamlin, 2007, p. 179). Adler and Kwon remind us that "a growing number of sociologists, political scientists, economists, and organizational theorists have invoked the concept of social capital in the search for answers to a broadening range of questions being confronted in their own fields." (Adler & Kwon, 2002, p. 17). Yet research that offers a collection of implications of these informal networks is scant.

The purpose of this paper is to offer a review of the literature on informal social networks with special regard to organizations and to develop research propositions with regard to some organizational behavioral outcomes of these informal social networks. The next section of this paper addresses the formation of informal social networks and the importance of social exchange and dual exchange theory with regard to informal social networks. Following that we turn to organizational behavior outcomes of informal social networks such as social capital, knowledge transfer, organizational learning, communication, and leadership and power. We conclude with managerial and research implications of our discussion and propositions.

We first draw attention to how informal social networks form in today's organizations.

FORMATION OF INFORMAL SOCIAL NETWORKS

We are all familiar with the clique of smokers that congregates outside the building and exchanges the latest information and/or gossip, about the organization or the people inside of it. Much important "insider" information passes through the channels of sub-communities such as these formed on the basis of friendship or things that people have in common.

Informal networks form on the basis of many different mechanisms. People associate with each other and are drawn to each other through interpersonal attraction, common tasks, common schedules and geography, shared interests, and common backgrounds. But there are also self-interests that members of a shared informal network pursue. Individuals seek out their own personal benefit by belonging to informal networks of other people, which will be discussed later in this paper.

A basic view point in informal network formation is a common understanding that the whole is greater than the sum of the individual members' contributions. This is how

the formation of an informal social network becomes desirable in the eyes of the members or potential members of the network. Jackson and Wolinsky (1996) bring up the issue whether a network is efficient or will form in the first place if individual members can leave it. This certainly presents a threat to the stability of a network, when individual members have an incentive to leave the network. However, stability in networks can potentially create inefficiencies. This hints at the trade-off between network flexibility and stability. Networks need to be stable in their entirety to make relationships reliable and predictable for the individual players in it, but at the same time the members need to have some flexibility in order for them to have opportunities to create new beneficial relationships. In other words, there is a cost-benefit logic that underlies membership in informal social networks in that there ought to be an incentive for the members to a part of the network that outweighs the cost on not being a member or, alternatively, become a member in another social network. The basis for the creation and dissolution of informal social relationships lies in the social exchanges between the members of a network or an organization.

Researchers often use social exchange theory (Blau, 1964) to explain many interaction based phenomena in organizations. The following section offers a brief review of relevant issues regarding informal social networks vis-à-vis social exchange theory.

SOCIAL EXCHANGE THEORY AND INFORMAL SOCIAL SUPPORT

Blau (1964) described social exchange as the interaction in which giving and receiving material and intangible resources is at least partially predicated on the expectation of return or reciprocity. Much of our everyday life is relevant to some type of give and take relationship. Social exchange researchers are interested in the mechanics and outcomes of these exchanges (Dillman, 2006). Furthermore, dual exchange theory offers researchers of social networks an understanding of social behaviors and interpersonal and intergroup communication. Uehara (1990) uses dual exchange theory and networks to examine social solidarity issues, which have trust as a major underlying component. According to Dutta and Mutuswani (1997), a network is formed by self-interested members. They use attempt to assess an equilibrium of exchange among the members of a social network. The equilibrium takes on a point-of-view perspective in that the members will assess their personal subjective equilibrium, much like a cost-benefit analysis, and make decisions about the continuation or dissolution of the relationship. The relationships' benefits need not necessarily be of a financial nature. The relationships that are based on personal attraction and friendship can be seen as beneficial, when the relationship is emotionally and personally satisfying. In fact, network theory assumes that networks among people are chosen not only on the basis of personal attraction and friendship, as discussed above, but also on terms of efficiency, trust, duration, longevity and the accomplishments of results.

Solidarity and loyalty as group phenomena are important outcomes of social exchange that have a significant impact on the flexibility and stability of the informal social relationships. This makes collaboration, cooperation, and trust essential in these types of social exchanges and are important for relationships at work. They are the foundation of any informal social relationship in that the exchange, tangible or not, creates the connection between the actors and facilitates future interactions through the

building of trust and experiences of exchanges. The congregation of the connections forms the informal social network (Uehara, 1990).

Myerson (1977) takes on a game-theoretic perspective to the formation of informal social networks. Myerson's work informed us that coalitions of individual employees can only function when they are connected through other links in the network. Underlying is the idea that members of the social network bargain for the benefits of their activities. This also presents challenges to the longevity and flexibility of the informal network. The members of the network will attempt to maximize the networks' value for themselves; the will leave it if this promises greater value for the member. Much research has addressed the self interest of individuals in an organizational context.

These informal social networks are expected to play an important role in organizational behavior phenomena such as social capital, knowledge transfer, organizational learning, communication, and leadership and power. We now turn to social capital outcomes of informal social relationships.

SOCIAL CAPITAL

Informal social relationships have the potential to create social capital for the individual as well as the organization via the exchange of information and communication. This social capital can be an essential component to an individual's success by becoming the glue that binds together the elements of an organization. Social relationships span intra-departmentally as well as inter-departmentally. These social relationships result in team-like bonding and the feelings of togetherness and belongingness that hold together the people inside an organization and make them strive for common goals.

Further, the informal social relationships also create social capital for the organizations to exploit. Organizational capital is viewed as comprising the elements of financial, human, and social capital of individuals, which aggregates to the social capital of the organization (Morton, Brooks, Smart, Backhouse, & Burns, 2004). Dess and Shaw (2001), conceptualize social capital as the network structure and social resources therein, while Nahapiet and Goshal (1998) posit social capital as the sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by a social unit. Social capital can be fruitful for innovation and organizational development if it is harvested accordingly. Maximizing the utilization of social capital results in the optimal use of all the human and technical resources of the organization.

According to Bouty (2000), social capital appears to be a key factor in organizational success, because of the fluent exchange of resources that underlies the exchanges between individuals. Social capital is regarded as the cohesive glue that bonds together the individuals to each other (Stephenson, 1998), and the organization (Baker, 2001). Team cohesion has been extensively researched in the organizational literature. Social capital, however, can only be valuable when it is communicated effectively into organizational knowledge. Hence we now turn to knowledge transfer among employees.

KNOWLEDGE TRANSFER

With the ever increasing challenge to get the workforce up to speed, and the problems of job turnover (cf. Allen, Bryant, & Vardaman, 2010; Allen & Bryant, 2012), it becomes important for organizations to have a culture conducive to learning. Knowledge transfer can help employees perform their jobs better. Knowledge transfer via informal social networks is likely the most common and most important form of knowledge transfer, yet it remains the least understood. Lahti, Darr and Krebs (2002) say that exiting employees take their explicit and tacit knowledge with them which affects organizational performance and costs the organization money in retraining new employees. They also say that the channels through which people learn informally are relationships with peers, colleagues, and mentors. Lahti, et al. (2002) go on to say that informal knowledge transfer is critically important for organizational performance; more so than formal training conducted by the organization. Lahti, et al. (2002) report that 68% of the interviewees stated that they obtained knowledge from their coworkers. This is indicative of the frequent use of informal relationships to obtain the knowledge and skills required to achieve organizational results. Thus we arrive at proposition 1a.

Proposition 1a: informal social relationships have a positive relationship with knowledge transfer.

However, task knowledge is not the only type of knowledge transferred with the help of coworkers. Coworkers create the climate and culture of the organization and transfer role knowledge to their colleagues. Climate and culture of an organization contain information on organizational norms and values that are important for employees to understand and learn. Lahti et al (2002) argue that the transfer of job knowledge enables the transfer of role knowledge, because individuals' understanding of the job helps them to better understand not only what they are supposed to do, but also how they are supposed to do it. Knowledge transfer needs to be appropriately channeled to ensure an understanding of individual performance measures and to discourage excessive idle talk and gossiping. Companies should desire effective role knowledge transfer, because it creates the platform for organizational socialization. Ultimately, this will translate into organizational performance. There are some important implications for knowledge transfer. A company could implement a coaching system, a buddy system, or even a mentoring program that would increase interaction among newcomers to the organization. Such a program enables newcomers to identify the key knowledge for success in the organization more quickly. Socialization has been recognized also in the turnover literature (cf. Allen, Bryant, & Vardaman, 2010; Allen & Bryant, 2012). Hence, proposition 1b.

Proposition 1b: informal social relationships have a positive relationship with an organization's culture and climate.

Informal social relationships can also potentially impact organizational learning. Therefore, we discuss next how organizations can learn from informal social relationships among their employees.

ORGANIZATIONAL LEARNING

Learning from peers is a principal mode of learning in contemporary organizations. According to Boud (1999), informal interactions with peers are predominant ways of learning. The key to informal learning lies in social participation with the community (Wenger, 1998). The embeddedness in the community along with all relationships in the workplace creates identity and meaning for all participants in the community. However, informal learning is often not recognized as actual learning within the organization (Boud & Middleton, 2003). Most employees treat it as being part of the job rather than as a conscious effort of learning from peer to peer. According to the research of Boud and Middleton (2003), there are two important findings; the first concerns the interaction between context and the type of learning that occurs, while the other concerns the significance of learning in informal networks. Educational planners, which are sometimes present in organizations, say that sharing knowledge in an informal manner is now characteristic of many organizations. Colleagues are now recognized as a primary source of information inside an organization. Therefore, we assert proposition 2.

Proposition 2: informal social relationships positively influence organizational learning.

Informal social relationships also play a critical role in organizational communication processes.

COMMUNICATION

Communication, whether informal or formal, exists within patterned networks, and has a strategic aspect that can create conflicts between the common and separate interests of network members (Bonacich, 1987). Informal social networks as well as formal organizational networks emphasize the importance of network position. The research examining medical laboratories by Bonacich, finds an association between network position and communicativeness, which is consistent with some of the research on organizational networks. In organizations network centrality is confounded with differences in power, status, and function. The result of this is that some players do not play the same game. According to Bonacich, occupants of different positions may have different incentives to behave cooperatively or competitively. For example, middle positions have less incentive to communicate because their failure to communicate has less effect on the success of the network in its entirety (Bonacich, 1987). The result of this may be that participants in informal social networks may either communicate freely or possibly withhold information from other network positions. Thus, we posit proposition 3.

Proposition 3: informal social relationships have a positive relationship with the flow of communication inside an organization.

Informal social networks will have an impact on leadership emergence and selection. Internal promotions and external recruitment are often a result of informal

networks. Thus we turn our discussion toward informal social networks and how they impact leadership and power relationships in organizations.

LEADERSHIP & POWER

Salancik and Pfeffer (1977; Pfeffer & Salancik, 2003) suggest that attitudes are developed as a function of the information made available to people through their social relationships and their beliefs are adapted to the reality of their situation. Individuals are embedded in their social structures that influence their interpretations of organizational reality and regulate their access to or control over valued resources (Ibarra & Andrews, 1993). Leadership implies that there are power differences inside the informal social network. The question remains to be answered, how these power differences are formed and which mechanisms influence them. Leaders emerge, or are chosen, based upon friendship, liking, and interpersonal respect. The difference between formal respect structures and informal respect structures affects leadership in particular ways. In informal social structures, leaders are chosen and not superimposed by the organizational chart. Interpersonal interactions as well as nominations for leadership play an important role for the emergence of leaders in an informal social network (Rees & Segal, 1984). As noted previously, interpersonal interactions with regard to communication are important in informal networks. Effective communication exerts a degree of control over the other participants in the network. Regardless of network characteristics, the ability to influence others is often a property of individuals (Fernandez, 1991).

Fernandez (1991) argues that leadership, particularly that aspect of leadership, which is reflected in respect, is inherent on the relations among individuals. Yet it is important to note that leadership is a characteristic which is given to leaders by other individuals and not taken on by the leaders themselves. Some people argue that it is not the leaders who possess superior qualities, but the followers who believe in the leaders make the leader, which is consistent with attribution theory (Heider, 1958). Characteristics are attributed to the leaders and manifest in the minds of their followers. Therefore, the network along with its participants creates the necessary circumstances for relational leadership to be effective. Blau's theory of social exchange (1964) affirms the view that relational leadership is created through the interactions and exchanges that the participants inside a network have on a regular basis. This indicates the importance of informal structure on organizational and leadership processes.

The research by Fernandez (1991), finds evidence that informal friendship ties have the strongest influence on respect relations. Yet he recognizes the nature of organizational leadership and says that the emergence of leaders through interpersonal interactions usually is followed by formal recognition of a leadership position. The evidence provided by Fernandez (1991) supports the idea that informal social relationships predict the leadership and the differing respect relations. This also supports the belief that leaders do not inherently possess the characteristics that make them leaders. According to Fernandez (1991), leaders are created by their followers and the interaction that they have with them. The most effective leader would be one that is able to combine the formal with the informal characteristics of leading other people, which offers support for our previous assertion that the most effective leaders are oftentimes the greatest communicators.

The formal and informal status orderings follow either a rational-legal or social-psychological framework. These frameworks provide an ordering that gives the people in a network their positions, relationships, and interactions (Brass & Burckhardt, 1993). Informal power bases and statuses are given to actors in the network based on others' beliefs about the actors' possession of desirable social resources resulting in spontaneous or voluntary interactions (Fombrun, 1983; Nelson, 2001). Two types of resources, interpersonal identification and attraction, and their respective social powers, knowledge and proficiency, are associated with referent power and expert power respectively (French & Raven, 1959; Lamertz & Aquino, 2004). As a result of these resources, we find that informal status orderings are based on popularity and expertise (Mechanic, 1962). High status allows access to social power based on social network positions and the degree of involvement in network related relationships (Lamertz & Aquino, 2004; Ibarra, 1993; Krackhardt & Kilduff, 1990). Social power is a concept grounded in the principles of social exchange theory (Emerson, 1962). The interpersonal affect is based on expressive friendship relationships (Ibarra, 1993). Marsden (1990) suggests that friendship ties are stronger with more intimate links and tend to connect people who are more similar on a variety of characteristics. Hence, friendship based relationships are more likely than instrumental ties to link people who are similar with respect to both personal characteristics and organizational affiliations and who are thus more likely to have consistent interests. Additionally, the frequency of interaction is higher for friendship ties than it is for instrumental relationships (Granovetter, 1973). This provides for more repetition of information. Information that is obtained from friends may also be perceived as more credible and relevant (Brass & Burckhardt, 1993). Thus we offer propositions 4a and 4b.

Proposition 4a: informal social relationships influence the emergence of leadership in an organization.

Proposition 4b: informal social relationships influence power relationships in organizations.

CONCLUSION

Analyses of social networks reveal that the actual informal structure in an organization is almost always different from the one that is displayed on the organizational chart. Herman (2003) reminds us that it is secretaries and administrators that run the day-to-day activities in most organizations.

We discussed how informal social networks form, and how they are relevant to many issues in organizational behavior and management. Informal social networks drive the institutionalization of acceptable behaviors and norms, and potentially change the organizational chain of communication and command structure.

Informal social networks are expected to influence social capital, knowledge transfer, organizational learning, communication, and leadership and power within organizations.

Recent studies indicate that culture and cross-national (Berry, 2011; Boenisch & Schneider, 2010; & Garmann & Ingrid, 2011) and industry (Robinson & Stubberud,

2010) differences may moderate the effects of informal social networks. Future research along these lines is likely to prove enlightening.

Informal social relationships drive organizational practices and everyday operations. However, researchers continue to place more emphasis on the formal reporting relationships. We made the case herein for continued and increased research in informal social relationships to gain a better understanding of the way that organizations operate and develop.

REFERENCES

Adler, P.S., & Kwon, S.W. 2002. Social capital: Prospects for a new concept. *Academy of Management Review*, 27:1, 17-40.

Allen, D.G. & Bryant, P.C. 2012. *Managing Employee Turnover: Myths to Dispel and Strategies for Effective Management*. Business Expert Press, NY.

Allen, D.G., Bryant, P.C. & Vardaman, J.M. 2010. Retaining talent: Replacing misconceptions with evidence-based strategies. *Academy of Management Perspectives*. 24:2, 48-64.

Allen, J., James, A., & Gamlin, P. 2007. Formal versus informal knowledge networks in R&D: A case study using social network analysis. *R&D Management*, 37:3, 179-196.

Baker, W. 2001. Social capital: help your people expand their networks. *Executive Excellence*, 18:8.

Berry, S. 2011. Identity economics: Social networks and the informal economy in Nigeria. *Progress in Development Studies*, 11:2, 178-180.

Blau, P.M. 1964. *Exchange and Power in Social Life.* New York: Wiley.

Boenisch, P. & Schneider, L. 2010. Informal social networks and special mobility: The enduring impact of communist history in Eastern Germany. *Post Communist Economics*, 22:4, 483-497.

Bonacich, P. 1987. Power and centrality: A family of measures. *The American Journal of Sociology*, 92:5, 1170-1182.

Boud, D. 1999. Situating academic development in professional work: Using peer learning. *International Journal for Academic Development*, 4:1, 3-10.

Boud, D. & Middleton, H. 2003. Learning from others at work: communities of practice and informal learning. *Journal of Workplace Learning*, 15, 194-202

Bouty, I. 2000, Interpersonal and interaction influences on informal resource exchanges between R&D researchers across organizational boundaries. *Academy of Management Journal*, 43:1, 50-65.

Brass, D.J. & Burckhardt, M.E. 1993. Potential power and use: An investigation of structure and behavior. *Academy of Management Journal*. 36, 441-470.

Burt, R.S. 1976. Positions in networks. *Social Forces.* 55, 93-122.

Burt, R.S. 1995. *Structural Holes: The Social Structure of Competition.* Harvard University Press, Boston, MA.

Dess, G.G. & Shaw, J.D. 2001. Voluntary turnover, social capital, and organizational performance. *Academy of Management Review*, 26:3, 446-456.

Dillman, D.A. 2006. *Mail and Internet Surveys: The Tailored Design Method*. Wiley & Sons, Honoken.

Dutta, B. & Mutuswami, S. 1997. Stable networks. *Journal of Economic Theory*, 76, 322-344.

Emerson, R.M. 1962. Power-dependence relations**.** *American Sociological Review.* 27:1, 31-41.

Fernandez, R.M. 1991. Structural bases of leadership in intraorganizational networks, *Social Psychology Quarterly*, 54:1, 36-53.

Freeman, L.C. 1979. Centrality in social networks: Conceptual clarification. *Social Networks*, 1, 215-239

French, J.R.P. & Raven, B. 1959. Leadership and interpersonal power. Pp. 118-149. In *Studies of Social Power*, edited by Dorwin Cartwright. Ann Arbor: Institute for social research, University of Michigan.

Fombrun, C.J. 1983. Attributions of power across a network. *Human Relations*, 36, 493-508.

Garmann, J, & Ingrid, H. 2011. Formal project organization and informal social networks: Regional advantages in the emergent animation industry in Oslo, Norway. *European Planning Studies*, 19:7, 1165-1181.

Granovetter, M. S. 1973. "The strength of weak ties". *The American Journal of Sociology* 78:6, 1360–1380.

Heider, F. 1958. *The Psychology of Interpersonal Relations.* New York: John Wiley & Sons.

Herman, J. 2003. Small world networks in your organization. *Business Communications Review*. 33:8, 16-19.
Ibarra, H. 1993. Network centrality, power, and innovation involvement: Determinants of -technical and administrative roles. *Academy of Management Journal*, 36, 471-501.
Ibarra, H. & Andrews, S.B. 1993. Power, social influence, and sense making: Effects of network centrality and proximity on employee perceptions. *Administrative Science Quarterly*, 38, 277-303.
Jackson, M.O. & Wolinsky, A. 1996. A strategic model of social and economic networks. *Journal of Economic Theory*. 71:1, 44-77.
Krackhardt, D. & Kilduff, M. 1990. Friendship patterns and culture: the control of organizational diversity. *American Anthropologist*.
Lamertz, K. & Aquino, K. (2004). Social power, social status and perceptual similarity of workplace victimization: A social network analysis of stratification. Human Relations, 57(7), 795-822.
Lahti, R.K., Darr, E.D. & Krebs, V.E. 2002. Developing the dynamic workforce: The impact of informal knowledge transfer. *Journal of Organizational Excellence*, 21:2, 13-21.
Marsden, P.V. 1990. Network data and measurement. In W.R. Scott (Ed.), *Annual Review of Sociology*, 16, 435-463.
Mechanic, D. 1962. Sources of power of lower participants in complex organizations. *Administrative Science Quarterly*, 7, 349-364.
Mitchell, J.C. 1969. The concept and use of social networks. In *Social Networks in Urban Situations*, edited by L.C. Mitchell. Manchester, University of Manchester, Press.
Morton, S.C., Brooks, N.J., Smart, P.K., Backhouse, C.J., & Burns, N.D. 2004. Managing the informal organization: Conceptual model. *International Journal of Productivity*, 53, 214-232.
Myerson, R. 1977. Graphs and cooperation in games. *Mathematics of Operations Research*, 2, 225-229.
Nahapiet, J. & Goshal, S. 1998. Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23:2, 242-266.
Nelson, R.E. 2001. On the shape of verbal networks in organizations. *Organization Studies*, 22, 797-823.
Pfeffer, J., & Salincik, G.R. 2003. *The External Control of Organizations: A Resource Dependence Perspective.* Stanford Business Books, Stanford.
Rees, C.R. & Segal, M.W. 1984. Role differentiation in groups: The relationship between instrumental and expressive leadership. *Small Group Behavior*, 15, 109-123.
Robinson, S., & Stubberud, H.A. 2010. An analysis of informal social networks by industry. *International Journal of Entrepreneurship*, 14, 1-12.
Salancik, G.R., & Pfeffer, J. 1977. Who gets power-and how they hold on to it: a strategic contingency model of power? *Organizational Dynamics*, 5, 3-21.
Stephenson, K. 1998. What knowledge tears apart, networks make whole. *Internal Communication*. 36, 22-25.
Uehara, E. 1990. Dual exchange theory, social networks, and informal social support. *The American Journal of Sociology*, 96:3, 521-557.
Wenger, E. 1998. *Communities of Practice: Learning, Meaning and Identity*, Cambridge University Press, New York, NY.

CEOS AS CORPORATE DIRECTORS: A HUMAN CAPITAL PERSPECTIVE

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ABSTRACT

Decades-long research on boards of directors based on the agency theoretic insider/outsider distinction (Fama & Jensen, 1983) has yielded limited results regarding the effectiveness of boards as monitors of senior management (Johnson, S., Schnatterly, & Hill, 2013) leading governance scholars to incorporate agency theory based distinctions with rich characterizations of the human capital of board composition. This study examines the human capital brought to the boards of directors by active CEOs.

INTRODUCTION

Decades-long research on boards of directors based on the agency theoretic insider/outsider distinction (Berle & Means, 1968; Fama & Jensen, 1983) has yielded limited results regarding the effectiveness of boards as monitors of senior management (Johnson, S., Schnatterly, & Hill, 2013). In response, governance scholars have begun incorporating such agency theory based distinctions with rich characterizations of the human and social capital content of board composition. Among these lines of inquiry are those examining the human capital of individual directors (Johnson, S., Schnatterly, & Hill, 2013) as well as the resulting human capital at the board level. Such inquiry seeks to determine what skills and experience directors bring to the board and the aggregate impact of this human capital on firm outcomes.

Among such scholarly investigations are those examining characteristics of subgroups of directors (Jensen & Zajac, 2004; Johnson, S., Schnatterly, & Hill, 2013; Lau & Murnighan, 1998) such as outside directors who are active CEOs at other firms. These scholarly investigations expand on agency theoretic research based primarily on directors' structural position by seeking to understand the human capital of boards that proceeds from the perspectives of these key strategic leaders. In this way, examination of board human capital in general and CEO director human capital specifically complements the agency theoretic emphasis on the structural position of directors by including the perspectives of these strategic leaders (Mintzberg, 1988) that result from the vantage point of this structural position. Simply put, outside directors bring more than their employment relationship to the focal firm and bring along with this structural relationship some rather unique perspectives stemming from a wide variety of direct experiences at their home firms and indirect experiences through observation of other firms.

In addition, previous research suggests that governance is more than oversight. Indeed, it depends on a balance or trade-off between inward-looking versus outward-looking perspectives (Cohen & Levinthal, 1990). As part of their external organizational role, boards link their focal organizations to critical environmental resources and information lying in a network of interlocking directorates (Finkelstein & Hambrick, 1996; Price, 1963; Pfeffer, 1972; Zald, 1969). Internally, in addition to their monitoring role, boards also perform policy roles of advice and counsel and ratification of strategy (Fama & Jensen, 1983; Finkelstein & Hambrick, 1996).

Much of these external and internal roles are heavily informed by certain levels of expertise and skill (Baysinger & Butler, 1985). CEO directors come to the board with a great deal of experience, knowledge, and expertise comprising potentially valuable human capital. This human capital may enhance the capacity of the board to advise, counsel, ratify, and monitor the firm's management and strategic direction. This study examines the human capital brought to the boards of directors by active CEOs whose experience as general managers has resulted in both general human capital and specific human capital.

CEO DIRECTORS: WHAT IS KNOWN

What scholars know about CEO directors comes from both the finance and strategic management literatures and can be summarized in terms of their effects on the appointing firm, factors influencing acceptance by active CEOs of board appointments, and source (home) firm and appointing (focal) firm characteristics. Regarding the impact on appointing firms, Fich (2005) reported a positive stock market reaction to appointment of CEO directors to boards of Fortune 1000 firms between 1997 and 1999. Faleye (2011) demonstrated that managerial compensation is higher and less sensitive to firm performance when CEOs serve as directors, although Fahlenbrach and colleagues (2010) using a broader sample and longer time series did not observe any relationship between the existence of CEO directors on the board and managerial compensation. Fahlenbrach and colleagues (2010) also note that CEO directors' authority and strategic leadership experience may enhance the value of the board's advising and monitoring functions particularly at small and/or growing firms with high advisory needs and for young, less experienced CEOs (Hermalin & Weisbach, 1988). Fich (2005) noted an inverse relationship between appointment of CEO directors and the existence of CEO directors already on the board, while Fahlenbrach and colleagues observed that firms with CEO directors already on the board seemed to be related to subsequent appointment of new CEO directors. In fact, Fahlenbrach and colleagues noted that CEOs cluster on boards: the existence of a CEO director on the board increases likelihood of additional CEO directors. CEO directors may also influence the spread of institutional governance norms across firms. Westphal & Zajac (1997) demonstrated the impact of CEO directors as a means whereby corporate practices are diffused across firms. CEO directors were more likely to bring changes to the appointing firm's board (e.g., dual leadership or more outside directors) if they had experienced similar changes by way of board policy changes at their home firms. Noting a leveling effect, they demonstrated the effects of an equity or social comparison perspective (Festinger, 1954; Walster, Berscheid, and Walster, 1973) in which CEOs who recently experienced loss of power at their home firms saw their status as having decreased in comparison to CEOs on whose boards they served and behaved in such a way as to similarly reduce support on behalf of those CEOs on whose boards they served.

In addition to impacting appointing firm outcomes, certain factors such as reduced employment risk, enhanced compensation and reputation, and exposure to new business opportunities may influence active CEOs to accept board appointments at other firms. Fahlenbrach and colleagues (2010), noting Fich's (2005) report of a positive stock market reaction to the appointment of CEOs to corporate boards examined factors attracting active CEOs to outside board service. Learning about the new firm as a member of the board may require considerable cognitive effort (Wiersema, 2002) as well as an extended period of orientation at the new firm. Governance scholars suggest that a new director can require three to

five years to sufficiently understand the firm (Bacon & Brown, 1975). Hence, newly appointed directors face considerable opportunity costs associated with board service, and this phenomenon is especially acute for active CEOs (Wiersema, 2002). These opportunity costs may be ameliorated by acceptance by CEOs of appointments to boards of firms bearing marked similarity to their home firm on attributes such as firm size, age, financial and investment policies, and governance structures (Fahlenbrach et al., 2010) making appointing firms perhaps easier to understand. These similarities between the CEO director's home firm and the appointing firm result in decreased time and effort to understand the appointing firm's strategic context allowing these directors to "economize on governance costs" (Carpenter & Westphal, 2001: 654). In contrast to the risks and high opportunity costs just described, board service may bring benefits and rewards to CEO directors in the form of more knowledge of business opportunities, enhanced prestige and other potential improvements regarding an active CEO's position (Fahlenbrach et al., 2010) perhaps bringing value beyond financial compensation to individuals who are already rather well compensated (Fich, 2005). Service by active CEOs on boards of other firms presents risks to their jobs and reputations but also provides tangible and intangible rewards as well as opportunities for further strategic leadership development.

Looking beyond CEO directors' individual characteristics, empirical research has examined the characteristics of these CEO directors' home firms and those of appointing firms. Prior discussion points up the role that similarities between the source (home) and appointing (focal) firms play in attracting active CEOs as directors. Regarding other source firm characteristics, Booth and Deli (1996) noted that CEOs of firms with growth opportunities hold fewer outside directorships but also demonstrated that CEOs with strong top management teams to whom they may transfer decision making tend to hold more outside directorships. Furthermore, with respect to appointing firms, appointments of active CEOs as directors tend to come from older CEOs than those making non-CEO director appointments (Fahlenbrach et al, 2010)

In sum, this line of research demonstrates that active CEOs are highly sought after for board service, that such directors seek favorable tradeoffs between total compensation (including intangible incentives in the form of prestige and expected networking opportunities) and the workload associated with board service, and that investors favorably view the appointment of active CEOs as outside directors by bidding up the appointing firm's stock price. The next section addresses the nature of human capital and the types of human capital brought to firms' boards of directors by active CEOs serving as directors.

HUMAN CAPITAL: GENERAL, SPECIFIC, AND FIRM-SPECIFIC

Human capital consists of knowledge and skills and is composed of general and specific human capital. General human capital such as education or general business experience is deployable across multiple and somewhat varied contexts (Becker, 1964; Dimov & Shepherd, 2005; Hatch & Dyer, 2004; Le, Kroll, & Walters, 2013; Nonaka, 1994). Other human capital is specific (e.g., industry experience, functional experience, general management experience (Kotter, 1982)) and deployable across similar contexts (Amit & Schoemaker, 1993). Yet other types of human capital are firm specific (e.g., context specific experience, firm specific procedures, routines, and practices) (Hatch & Dyer, 2004; Le, Kroll, & Walters, 2013). Firm specific human capital is that which can be applied in a particular firm (Amit & Schoemaker, 1993). In some cases, firm specific knowledge may be so specific that it is only imperfectly

deployable in other firms. Human capital acquired from rivals often requires "dynamic adjustment costs" (Hatch & Dyer, 2004: 1156) in the process of adapting the human capital to the new context (Cappelli & Singh, 1992; Hatch & Dyer, 2004; Mahoney and Pandian, 1992; Mahoney, 1995; Penrose, 1959; Prescott & Visscher, 1980; Teece, Pisano, & Shuen, 1997). Thus, human capital ranges from highly generalized knowledge and skills to context specific knowledge and skills to sets of knowledge and skills that are applicable only in a single firm creating "isolating mechanisms" (Dyer & Singh, 1998: 671) and resulting in resource heterogeneity and resource immobility (Barney, 1991) that lie at the core of a firm's competitive advantage (Rumelt, 1984).

BOARD HUMAN CAPITAL OF CEO DIRECTORS

Board human capital is the capacity of directors and their respective boards to provide to the focal firm unique skills and expertise in corporate governance. More specifically, board human capital consists of the set or bundle of skills, knowledge, and perspectives that outside directors collectively bring to the board (Johnson, S., Schnatterly, & Hill, 2013). Experience developed at their home firms combined with additional experience developed through multiple board appointments and industry experience represent valuable board human capital. However, suggesting limits in network diffusion, imitation, and social learning simply through director ties to other boards, the impact of CEO directors' experience as outside directors at other firms showed no systematic relationship to board policy changes at these other firms (Westphal & Zajac, 1997). The greatest value of CEO directors' experiences in terms of board human capital may come directly from their first-hand experience at their home firms rather than indirectly from their service as outside directors at other firms.

Service by active CEOs as directors provides several benefits to focal firms in the form of board human capital (Hillman, & Dalziel, 2003). First, board human capital provides a firm the benefits of directors' advice and counsel resulting from their expertise and skill. Second, board human capital brings legitimacy to the focal firm through directors' membership within the corporate elite (Finkelstein, 1992; Useem, 1979). Guarding their reputation as CEOs specifically and as strategic leaders generally, CEO directors are prone to carefully weigh the risks of associating with a poorly performing firm (Fahlenbrach et al., 2010). Noting that investors signal their approval of appointment of CEOs as outside directors, Fahlenbrach and colleagues (2010) view a CEO's acceptance of a seat on another firm's board as certification of the focal firm thereby signaling sufficiently high estimates of the firm's future prospects. Third, board human capital improves communication both internally and with external constituents through directors' timely and valuable information thereby reducing transaction costs. For example, information and expertise from service on other boards enhance the efficiency of governance through investments in time and effort on other firms' boards that increase the "return" on the time and attention invested in monitoring activities (Becker, 1964; Carpenter & Westphal, 2001: 654). Fourth, board human capital improves the focal firm's access to resources including financial resources and influence with political bodies and other important stakeholder groups (Finkelstein, 1992; Salancik & Pfeffer, 1978; Useem, 1979). In sum, CEO directors bring to the focal firm experience-based advice and counsel, legitimacy by signaling their certification of the firm's future prospects, improved communication internally and externally resulting in reduced information costs, and improved access to resources and important stakeholders.

DEFINING GENERAL BOARD HUMAN CAPITAL

General board human capital is comprised of the knowledge, experience, and skills that directors bring to boards of directors. Just as general human capital is deployable across multiple and somewhat varied contexts, general board human capital is the set of knowledge, experience, and skills applied to the governance functions of the board in advising and monitoring firm management and connecting the focal firm with external resources. This may stem from a broad range of experiences that strategic leaders develop through exposure to a wide variety of strategic and governance contexts resulting in a somewhat "cosmopolitan view" of strategic and management issues (Useem, 1984: 48). This cosmopolitan view grows from involvement in industry value chains, service on other firms' boards, contacts with other business leaders such as through trade groups, and general exposure to the business environment resulting in a general "business scan" (Useem, 1984: 45) as part of an information processing system that becomes an important source of tacit knowledge for the focal firm.

CEO DIRECTORS AND GENERAL BOARD HUMAN CAPITAL

One important source of general board human capital is the business experience derived from service as a CEO (Bianco & Byrne, 1997; Hillman et al., 2000). Fich (2005) observed that appointment of a CEO director was inversely related to the proportion of CEO directors already on the board, leading him to surmise that firms may be reluctant to replicate the skills of CEO directors already on the board. This suggests that the human capital brought by CEO directors is homogeneous implying that CEO director human capital is fairly general human capital rather than specific human capital. Tian and colleagues (Tian, Haleblian, & Rajagopalan, 2011) examined the impact of boards' CEO experience on CEO selection and found that investors reacted favorably to selection of CEOs when made by boards that were partly composed of directors who were active CEOs at other firms. The CEO experience brought to the board as discussed by Tian et al. (2011) appears to be general CEO experience rather than CEO experience of a specific type or specific context. The credible empirical evidence of CEO directors' human capital comes from the stock market's reaction to involvement in CEO selection by CEO directors. However, the specific nature of that experience is not evident either from the market reaction or from the authors' descriptions of the specific experience. In addition, theoretical development of board CEO experience and new CEO appointments stresses the tacit nature of CEO directors' knowledge. Experiences such as dealing with the complexity of the tasks of being a CEO, integration of functional managers' knowledge and capabilities, skills in "communication, leadership, and conflict resolution" (Mintzberg, 1973; Tian et al,.2011: p. 733; Zhang and Rajagopalan, 2004), developing firm strategic vision and communicating it to external constituents, and making strategic decisions that are typically quite complex (Lorsch & Kurana, 1999) all comprise some of the general human capital brought by active CEOs to the boards of other firms where they serve as directors. The generalized experience of seasoned CEOs involved in service as directors on other firms' boards may be considered general training that is an investment in productivity entailing high initial costs that later produce returns as higher productivity (Becker, 1964).

CEO HOME FIRM TENURE AND BOARD HUMAN CAPITAL

CEOs who have served in the top post at their home firm develop a certain set of generalized knowledge and skills comprised of a largely tacit component that seems to be valued by the financial markets and by the appointing firm. In addition, the longer that a CEO serves as a director, the greater her/his firm specific knowledge thereby developing firm-specific human capital that is incorporated with her/his generalized knowledge and skills providing unique governance capabilities. Some scholars maintain that directors require three to five years to accumulate enough experience to adequately understand the way a firm operates (Bacon & Brown, 1973; Kesner, 1988). Thus, active CEOs with relatively longer tenure at their home firms are desired as directors at other firms for their generalized strategic leadership experience. As their service on the focal firm's board increases, this generalized board human capital becomes increasingly firm specific relative to the focal firm suggesting the following propositions.

Proposition 1: The longer a CEO director's service as an active CEO the greater her/his general board human capital.

Proposition 2: The longer an active CEO serves on a focal firm's board, the greater her/his firm-specific board human capital relative to the focal firm.

These preceding propositions suggest that longer serving CEO directors are useful to the focal firm's governance rather than a hindrance. However, the usefulness of a CEO director's long service must be balanced with a fairly powerful board. The longer the collective tenure of the board, the more likely the board is to be coopted by a powerful CEO (Westphal & Zajac, 1997). However, board tenure heterogeneity my reduce this potential cooptation. In addition, the power of the CEO may be further balanced by such board structural arrangements as outside chairs, lead outside directors, and smaller boards.

INDUSTRY EXPERIENCE OF CEO DIRECTORS

Governance research on CEO directors points up the importance of similarities between the source/home firm and the appointing/focal firm that reduce information costs in "learning the ropes" at the new firm. For example, information and expertise derived from service on other firms' boards enhances the efficiency of governance by affording strategic leaders the opportunity to "economize on governance costs" (Carpenter & Westphal, 2001: 654) through investments in time and effort that increase the "return" on those efforts (Becker, 1964). Similarly, CEO directors serving on boards of firms in a similar industry as that of her/his home firm helps achieve efficiency for the focal firm's governance activities by facilitating the application of common cognitive structures, shared frames of reference, and similar practices and their associated outcomes. Pointing up the importance of industry knowledge among board members, Vancil (1987) suggests that successful CEO selection requires the board's understanding of the focal firm's industry environment. Inferring from Vancil's observations concerning CEO succession, because one of the board's key duties is employing the CEO, providing proper monitoring and oversight of the CEO would certainly be enhanced by the board's collective knowledge of the focal firm's industry. This collective knowledge would be further strengthened by such industry knowledge as seen from the perspective of a CEO director with experience in the focal firm's industry.

CEO directors with experience in the focal/appointing firm's primary industry may enhance both the advising and monitoring functions of the board. A diverse set of experiences among board members may impede the ability of the board to relate to one another (Kosnik, 1990), while common experience such as work in similar industries may improve board functions. A CEO director with industry experience similar to that of the focal/appointing firm may enhance the effectiveness of interaction within the board at large, among outside directors, and with the firm's top management team. The business experience of strategic leaders is shaped in part by their industry context and the nature of industry-specific strategic decisions these leaders may have faced in the past (Bluedorn, Johnson, R. A., Cartwright, & Barringer, 1994; Mintzberg, 1988). For example, industry experience of boards is positively associated with sales growth of high technology firms (Kor & Sundaramurthy, 2009), with stock market reactions following acquistions (Walters, Kroll, & Wright, 2008), and with CEO successions (Tian, Halbelian, & Rajagopalan, 2011). CEO directors from industry contexts similar to that of the focal/appointing firm are more likely to perceive their ability to contribute strategically and to become more effective advisors and monitors (Carpenter & Westphal, 2001). By virtue of their position in the supply chain, managers of upstream firms tend to face similar strategic choices (Harrison, Hitt, Hoskisson, & Ireland, 1991); in much the same manner, managers of downstream firms face similar strategic choices. Hence, CEO directors' industry experiences may impact the quality of board processes.

CEO directors bring to the board industry-specific knowledge (Bacon & Brown, 1975) that may become part of the board's store of knowledge (Nelson & Winter, 1982) thereby enhancing board human capital. Industry experience brings with it a base of cognitive assumptions about the future, knowledge concerning alternative courses of action, and the likely consequences of such alternatives (Hambrick & Mason, 1984). An individual's cognitive base is a function of experiences including training and background (Cyert & March, 1963), and common cognitive frames may influence the capacity of boards to address strategic issues at the focal firm. For example, research on the impact of experience with specific types of strategic events demonstrates the association of prior acquisition experience with post acquisition performance of acquirors (Kroll, Walters, & Wright, 2008; McDonald, Westphal, & Graebner, 2008). CEO directors whose experience is similar to the focal firm's primary industry may bring to the board valuable human capital enhancing the likelihood of positive firm outcomes.

Scholarly inquiry into antecedents and outcomes of service of active CEOs on the boards of other firms confirms the attractiveness of these strategic leaders on the basis of their unique structural position and the human capital associated with that position in terms of experience and knowledge gained throughout their management careers. Active CEO directors bring legitimacy to the appointing firm by signaling their certification of the firm's future prospects (Booth & Deli, 1996; Fahlenbrach, Low, & Stulz, 2010) leading investors to view board characteristics as signs of firm quality (Certo et al. 2001; Higgins & Gulati, 2006). In addition, CEO directors' home firm experience, exposure to other firms' strategic contexts through other board appointments, and their industry experience combine to make active CEOs highly sought after for board service. However, the greatest value of CEO directors' experience in terms of board human capital may come directly from first-hand experience at their home firms rather than indirectly from their service as outside directors at other firms (Westphal & Zajac, 1997). Although this first-hand experience may come in many forms, one important aspect of this experience is the CEO director's experience in the focal/appointing firm's primary industry.

Proposition 3a: Service by active CEOs on a firm's board will be associated with similarity in each firm's primary industry.

Proposition 3b: The association of a CEO director's industry experience with the focal firm's primary industry will be stronger at the time of appointment and when the CEO director's tenure as CEO is short but her/his organizational tenure is long.

SPECIFIC BOARD HUMAN CAPITAL: CEOS AS SPECIALISTS

Chief executive officers and other top "C-level" managers are often considered to be generalists due to their position as general managers of an organization. However, these "general managers" may be more nearly specialists (Kotter, 1982). Notions in the business press and in scholarly literature of the "professional" manager as a generalist may be overblown, and heterogeneity rather than homogeneity in the skill sets of general managers may be more the norm than the exception. Kotter (1982) reported that across all the age groups in his study general managers had spent 80% of their career in one firm and 90% of their career in one industry. Their very experiences were the result of life's paths that made each one unique resulting in specialized sets of interests, skills, knowledge, and relationships (Kotter, 1982). For example, Ron Johnson, formerly of Apple, was attractive to the board and activist investors of J. C. Penney for his special expertise in retailing a very strong brand. Likewise, Angela Ahrendts, former CEO of Burberry, was recruited to fill the open position left by the departure of Johnson's successor in part for her experience in turning around the British luxury brand (Gordon, 2013). Allen Mulally, CEO of Ford, was considered for the top spot at Microsoft to succeed Steve Ballmer in part as a result of his long association with the software maker collaborating in development of on-board software for vehicles (Langley, 2013). Hence, despite deeply held notions of management as a generic process, general managers may be more specialized than popularly thought and characterized. One implication of this heterogeneity of general management human capital means that the proper fit in selection, especially for the top spot of CEO is vital (Kotter, 1982), and proper fit for service on the board of directors may be equally vital, especially in light of the increased perception of the importance of boards and increased scrutiny of the decisions and actions of boards.

The appointment of a CEO as a corporate director will take many factors into account among which is likely to be her/his specialized human capital. A CEO newly appointed as a director may reflect her/his tenure and experience at her/his home firm. A CEO who succeeded from inside the firm (internal succession) is more likely to be recruited for board service on the basis of her/his industry experience if the source/home firm is in a similar primary industry. Tian and colleages (2011) reported that experience among board members working in the appointing firm's industry brought positive reactions from investors upon the board's selection of a new CEO. Industry experience is important because firms in similar industries face similar sets of technologies, competitive practices, customer and supplier characteristics, and regulatory requirements (Kor & Misangyi, 2008). The industry-specific experience of outside directors enhances a board's ability to make sound acquisition decisions that receive positive investor reactions (Kroll, Walters, & Wright, 2008). In addition, boards are more likely to hire from within a firm's industry even when hiring from outside the firm (Parino, 1997).

Proposition 3c: A CEO who succeeded from inside the firm will show a stronger association of her/his industry experience than a CEO who succeeded from outside the firm.

IMPACT OF HOME FIRM ORGANIZATIONAL TENURE OF CEO DIRECTORS

Organizational tenure at the home firms of CEO directors should also play a role in their board human capital. Brickley, Linck, and Coles (1999) reported average CEO tenure of retired CEOs to be 9.6 years with total firm tenure of 27.5 years. The longer the organizational tenure of the newly appointed insider CEO, the greater her/his industry experience. Industry specific human capital (experience) of top executives is related to commitment to the *status quo.* Industry experience tends to result in shared perspectives stemming from common actions, contexts, and outcomes leading to "social construction of reality" (Hambrick et al., 1993: 412). Such common perspectives may be harmful if so deep seated and tacit that they impede capacity to recognize alternative ways of thinking (Huff, 1982). Thus, while helpful at certain levels, "industry wisdom" (Hambrick et al., 1993: 412) may be harmful when taken to extreme. However, industry experience may be beneficial to a firm's governance if existing in moderate amounts and included among a variety of experiences brought to the board by outside directors. Industry experience in the focal firm's primary industry among directors when combined with other types of experience among directors may beneficial to board decision processes. This may be particularly true since the board is responsible for particular functions of strategic decision making processes. Specifically, boards are not directly responsible for strategy formulation and implementation but are directly responsible for ratification of management's strategy formulation and monitoring of management's implementation (Fama & Jensen, 1983). Thus, while industry experience among the top management team (TMT) may result in negative outcomes, industry experience among directors may be desirable by better equipping boards to perform their governance functions as distinct from the firm's managers' performance of its decision functions of strategy formulation and implementation.

Furthermore, effective boards will tend to benefit from a board's industry experience when brought to the board by an active CEO with long organizational tenure in the source firm and appointing firms' common primary industry rather than by populating the board with a large number of directors with focal firm primary industry experience. Effective boards will have an optimal amount of industry experience when limited to that of a CEO director with long organizational tenure at her/his home firm that complements other types of experiences among the other outside directors. Indeed, the value of a board's focal firm primary industry experience will be enhanced if brought to the board by a CEO director whose industry specific human capital is combined with other types of general and specific human capital on the board. The value of collective knowledge of the appointing/focal firm's industry (Vancil, 1985) may come not so much from the number of those on the board with industry experience but from the quality of directors' industry knowledge through similar industry experience of a CEO director with long service at the home/source firm. Hence, the quantity of knowledge in terms of the number of directors with focal firm industry experience may be less important than the quality of knowledge in terms of a CEO director's long service at a firm in the same industry.

Proposition 3d: The longer the organizational tenure of the inside successor, the stronger the association of the CEO's industry experience with that of the appointing firm's primary industry.

At the same time, the longer a CEO's tenure in the top spot, the more s/he may be regarded as a generalist and the less valuable will be the industry experience of that individual. A CEO director's industry specific human capital may be most beneficial during the early years of her/his CEO tenure. Therefore, CEO directors with long organizational tenure at their home firm

but short CEO tenure will be more likely recruited for their specific human capital – industry experience and context specific experience.

Proposition 4: The shorter a CEO director's tenure as CEO at the home firm, the stronger the association of the the CEO's industry experience with that of the appointing firm's primary industry.

FIRM DIVERSIFICATION AND CEO DIRECTORS' GENERAL HUMAN CAPITAL

The level of diversification of the appointing firm will likely impact the attractiveness of some active CEOs as members of the board of directors. The more diversified the CEO director's home firm, the less vital will be the role of experience in a particular industry. This effect will be particularly true if the appointing firm is also broadly diversified across a number of industries. Similarity of primary industry will become less vital while similarity on other dimensions will likely increase in importance.

Proposition 5: The greater the total diversification of the appointing firm, the weaker the association of the CEO director's industry experience.

DISCUSSION

Governance research has traditionally explored effectiveness of the board of directors based on directors' structural position with respect to the focal firm. More recent investigations have begun to examine governance effectiveness based on the perspectives directors bring to the corporate board resulting from this structural position in the form of board human capital. Human capital consists of expertise, experience, knowledge, reputation, and skills (Becker, 1964; Coleman, 1988). Applied to corporate boards of directors, board human capital is composed of the skills, knowledge, and experiences directors bring to the board (Hillman & Dalziel, 2003) and may include industry experience, financial expertise including venture capital, and experience with specific activities (Johnson, S., et al., 2013) in addition to general management experience. Governance researchers suggest that the quality of board human capital impacts the capacity of boards to perform their governance roles of advice and counsel, resource provision, and monitoring management (Kroll et al., 2008).

One aspect of board human capital thought to be of particular value to the quality of corporate governance is experience as a CEO at another firm (Johnson, S., et al., 2013). Empirical investigation of effects of CEO directors on appointing firm outcomes includes impact on firm reputation through signaling "certification" of that firm's future prospects (Booth & Deli, 1996) and reactions by investors to appointments of CEOs to directorships and appointment of new CEOs by boards that include CEO directors (Tian et al., 2011). Governance researchers examining the roles of active CEOs serving as corporate directors tend to treat the human capital of CEO directors as largely homogeneous suggesting that CEO director human capital in the context of corporate governance is general human capital deployable across a multitude of settings. However, CEO directors come from a variety of contexts and tend to have relatively personalized experiences.

This study examines the potential heterogeneity implicit in CEO director board human capital by distinguishing among the general, specific, and firm-specific board human capital that CEO directors provide to appointing firms. CEO directors are products of their experiences including their service as CEOs. Early in a CEO's tenure, her/his attractiveness as a corporate

director will be based on industry experience and context specific experience such as acquisition experience suggesting that relatively short-tenured CEOs are attractive as director candidates for the specific human capital based on their roles as specialists within a particular industry or a specific organizational or functional domain (Kotter, 1982). With an increase in a CEO's tenure, factors influencing her/his attractiveness will tend to be based on more generalized experience as a strategic leader and member of the corporate elite.

In summary, board human capital provides a number of benefits to focal firms, although its impact is difficult to assess, its measurement difficult, and the direction of its effects likely non-monotonic or dependent on context (Johnson, S., Schnatterly, & Hill, 2013). A key source of board human capital that directors bring to the board comes from their experiences both as managers at their home firm and as directors on the boards of other firms. These contexts result in rather unique perspectives on strategic leadership (Mintzberg, 1988) stemming directly from formulating and implementing the strategies of the firms they manage as well as indirectly from ratifying and monitoring the strategies of firms on whose boards they serve.

REFERENCES

Amit, R. & P.J.H. Schoemaker (1993). Strategic assets and organizational rent. *Strategic Management Journal, 14*(1), 33-46.

Andrews, K. (1971). *The concept of corporate strategy.* Homewood, IL: Dow-Jones-Irwin.

Bacon, J. & J.K. Brown (1975). *Corporate directorship practices: Role, selection and legal status of the board.* New York: The Conference Board.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99-120.

Baysinger, B., & H.N. Butler, 1985. Corporate governance and the board of directors: Performance effects of changes in board composition. *Journal of Law, Economics, and Organization, 1*, 101-124.

Becker, G.S. (1964). *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education.* Chicago, IL: University of Chicago Press.

Berle, A.A. & G.C. Means ([1932] 1968). *The Modern Corporation and Private Property.* New York: Harcourt, Brace & World.

Bianco, A., & J.A. Bryrne (1997, March 3). The rush to quality on corporate boards. *Business Week*, 34-35.

Bluedorn, A.C., R.A. Johnson, D.K. Cartwright & B.R. Barringer (1994). The interface and convergence of the strategic management and organizational environment domains. J*ournal of Management*, 20(2), 201-262.

Booth, J.R., & D.N. Deli (1996). Factors affecting the number of outside directorships held by CEOs. *Journal of Financial Economics, 40*(1), 81-104.

Brickley, J.A., J.S., Linck & J.L. Coles (1999). What happens to CEOs after they retire? New evidence on career concerns, horizon problems, and CEO incentives. *Journal of Financial Economics, 52*(3), 341-377.

Carpenter, M.A., & J.D. Westphal (2001). The strategic context of external network ties: Examining the impact of director appointments on board involvement in strategic decision making. *Academy of Management Journal, 44*(4), 639-660.

Cappelli, P. & H. Singh (1992). Integrating strategic human resources and strategic management. In Lewin, D., Olivia, S. (Eds.), *Research Frontiers in Industrial Relations and Human Resources*, (pp. 165-192). Madison, WI: Industrial Relations Association.

Certo, S. T., C.M. Daily, & D. R. Dalton (2001). Signaling Firm Value through Board Structure: An Investigation of Initial Public Offerings. *Entrepreneurship Theory and Practice, 26*(2), 33-50.

Cohen, W.M., & D.A. Levinthal (1990). Absorptive capacity: New perspective on learning and innovation. *Administrative Science Quarterly, 35*, 128-152.

Coleman, J.S. (1988). Social capital in the creation of human capital. *Journal of Sociology, 94*(Supplement), S95–S120.

Cyert, R. & J. March (1963). *A behavioral theory of the firm.* Englewood Cliffs, N. J: Prentice Hall.

Dimov, D. P., & D. A. Shepherd (2005). Human capital theory and venture capital firms: Exploring "home runs" and "strike outs." *Journal of Business Venturing, 20*, 1-21.

Dyer, J. H., & H. Singh (1998). The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *Academy of Management Review, 23*(4), 660-679.

Fahlenbrach, R., A. Low & R.M. Stulz (2010). Why do firms appoint CEOs as outside directors? *Journal of Financial Economics, 97*(1), 12-32.

Fama, E. & M. Jensen (1983). Separation of ownership and control. *Journal of Law and Economics, 26*(June), 301-325.

Faleye, O. (2011). CEO directors, executive incentives, and corporate strategic initiatives. *Journal of Financial Research, 34*, 241-277.

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*(2): 117-140.

Fich, E. (2005). Are some outside directors better than others? Evidence from director appointments by Fortune 1000 firms. *Journal of Business, 78*(5), 1943–1971.

Finkelstein, S., & D. Hambrick (1996). *Strategic Leadership: Top Executives and Their Effects on Organizations.* Minneapolis/St. Paul: West Publishing.

Finkelstein, S. (1992). Power in top management teams: Dimensions, measurement, and validation. *Academy of Management Journal, 35*(3), 505-538.

Gordon, K. (2013, October 15). Angela Ahrendts to Oversee Retail; Christopher Bailey to Take Over at Fashion House. *The Wall Street Journal.* Retrieved October 15, 2014, from (http://online.wsj.com/news/articles/SB10001424052702304561004579136642448489128)

Hambrick, D.C., & P.A. Mason (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review, 9*(2): 193-206.

Harrison, J. S., M.A.,Hitt, R.E. Hoskisson & R.D. Ireland (1991). Synergies and post-acquisition performance: Differences versus similarities in resource allocations. *Journal of Management, 14*(1), 173-190.

Hatch, N.W. & J.H. Dyer (2004). Human capital and learning as a source of sustainable competitive advantage. *Strategic Management Journal, 25*(12), 1155-1179.

Hermalin, B.E., & M.S. Weisbach (1988). The determinants of board composition. *RAND Journal of Economics, 19*, 589-606.

Higgins, M.C. & R. Gulati (2006). Stacking the Deck: The Effects of Top Management Backgrounds on Investor Decisions. *Strategic Management Journal, 27*(1), 1-25.

Hillman, A.J., A.A., Cannella, Jr. & R.L. Paetzold (2000). The resource dependence role of corporate directors: Strategic adaptation of board composition in response to environmental change. *Journal of Management Studies, 37*(2), 235-255.

Hillman, A.J. & T. Dalziel (2003). Boards of directors and firm performance: Integrating agency and resource dependence perspectives. *Academy of Management Review, 28*(3), 383-396.

Hitt, M.A., & B.B. Tyler (1991). Strategic decision models: Integrating different perspectives. *Strategic Management Journal, 12*(5), 327-351.

Huff, A.S. (1982). Industry influences on strategy formulation. *Strategic Management Journal, 3*(2), 119-131.

Jensen, M. & E.J. Zajac (2004). Corporate elites and corporate strategy: How demographic preferences and structural position shape the scope of the firm. *Strategic Management Journal, 25*(6), 507-524.

Johnson, S.G., K., Schnatterly and A.D. Hill (2013). Board composition beyond independence: Social capital, human capital, and demography. *Journal of Management, 39*(1), 232-262.

Kaplan, S., & B.A. Minton (2012). How has CEO turnover changed? *International Review of Finance, 12*(1), 57-87.

Kesner, I.F. (1988). Directors' characteristics and committee membership: An investigation of type, occupation, tenure, and gender. *Academy of Management Journal, 31*(1), 66-84.

Kor Y.Y., & V.F. Misangyi (2008). Outside directors' industry specific experience and firms' liability of newness. *Strategic Management Journal, 29*(12), 1345–1355.

Kor, Y.Y. & C. Sundaramurthy (2009). Experience-based human and social capital of outside directors. *Journal of Management, 35*(4), 981-1006.

Kosnik, R. (1990). Effects of board demography and directors' incentives on corporate greenmail decisions. *Academy of Management Journal, 33*(3), 129-150.

Kotter, J. P. (1982). The General Managers. New York: The Free Press A Division of Macmillan, Inc.

Kroll, M., B.A. Walters & P. Wright (2008). Board vigilance, director experience, and corporate outcomes. *Strategic Management Journal, 299*(4), 363-382.

Langley, M. (2013, November 17). Ballmer on Ballmer: His Exit From Microsoft. *The Wall Street Journal.*

Lau, D.C., & J.K. Murnighan (1998). Demographic diversity and faultlines: The compositional dynamics of organizational groups. *Academy of Management Review, 23*, 325-340.

Le, S., M. Kroll & B.A. Walters (2013). The influence of board composition on top management team industry- and firm-specific human capital in young IPO firms. *Journal of Managerial Issues, 24*(4), 412-432.

Lorsch, J.W. & R. Khurana (1999). Changing leaders: the board's role in CEO succession. *Harvard Business Review, 77*(3), 96–105.

Mahoney, J.T. (1995). The management of resources and the resource of management. *Journal of Business Research, 33*(2), 91-101.

Mahoney, J.T. & R. Pandian (1992). The resource-based view within the conversation of strategic management. *Strategic Management Journal, 13*(5), 363-380.

McDonald, M.L., J.D. Westphal & M.E. Graebner (2008). What do they know? The effects of outside director acquisition experience on firm acquisition performance. *Strategic Management Journal, 29*(11), 1155-1177.

Mintzberg, H. (1973). *The Nature of Managerial Work,* Harper & Row.

Mintzberg, H. (1988). Opening up the definition of strategy. In J. B. Quinn, H. Mintzberg, & R. M. James (Eds.), *The Strategy Process: Concepts, contexts, and cases.* (pp. 13-20). Englewood Cliffs: Prentice-Hall.

Nelson, R.N. & S.G. Winter (1982). *An evolutionary theory of economic change.* Cambridge, MA: Harvard University Press.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science,* 5(1), 14-37.

Parrino, R. (1997). CEO turnover and outside succession: A cross-sectional analysis. *Journal of Financial Economics, 46*(2), 165–197.

Penrose, E.T. (1959). *The Theory of the Growth of the Firm.* Wiley: New York.

Pfeffer, J. (1972). Size and composition of corporate boards of directors: The organization and its environment. *Administrative Science Quarterly, 17,* 218-228.

Prescott E., & Visscher, M. (1980). Organizational capital. *Journal of Political Economy,* 88(June), 446–461.

Price, J.L. (1963). The impact of governing boards on organizational effectiveness. *Administrative Science Quarterly, 8*(3), 361-378.

Rumelt, R. (1984). Towards a strategic theory of the firm. In R. Lamb (Ed.), *Competitive Strategic Management* (pp. 556-570). Englewood Cliffs, NJ: Prentice-Hall.

Salancik, G.R. & J. Pfeffer (1978). A social information processing approach to job attitudes and task design. *Administrative Science Quarterly, 23*(2), 224-253.

Teese, D.J., G. Pisano & A. Shuen (1997). Dynamic capabilities and strategic management. *Strategic Management Journal, 18*(7), 509-533.

Tian, J., J. Haleblian & N. Rajagopalan (2011). The effects of board human and social capital on investor reactions to new CEO selection. *Strategic Management Journal, 32*(7), 731-747.

Useem, M. (1979). The social organization of the American business elite and participation of corporation directors in the governance of American institutions. *American Sociological Review, 44*(4), 553-572.

Useem, M. (1984). *The inner circle: Large corporations and the rise of business political activity in the U.S. and U.K.* New York: Oxford University Press.

Vancil, R.F. (1987). *Passing the baton: Managing the process of CEO succession.* Boston: Harvard Business School Press.

Walster, E., E. Berscheid & G.W. Walster (1973). New directions in equity research. *Journal of Personality and Social Psychology, 25*(2), 151-176.

Walters, B.A., M.J, Kroll & P. Wright (2008). CEO tenure ownership and effective boards: Impacts on firm outcomes. *Strategic Organization, 6*(3), 259-283.

Westphal, J.D. & E.J. Zajac (1997). Defections from the Inner Circle: Social Exchange, Reciprocity, and the Diffusion of Board Independence in U.S. Corporations. *Administrative Science Quarterly, 42*(1), 161-183.

Wiersema, M. (2002). Holes at the top: Why CEO firings backfire. *Harvard Business Review, 80*(12), 70-77.

Zald, M.N. (1967). Urban differentiation, characteristics of boards of directors, and organizational effectiveness. *American Journal of Sociology, 73,* 261-272.

Zhang, Y. & N. Rajagopalan (2004). When the known devil is better than an unknown god: an empirical study of the antecedents and consequences of relay CEO successions. *Academy of Management Journal, 47*(4), 483–500.

PERCEIVED ENVIRONMENTAL SECTOR IMPORTANCE AS A DETERMINANT OF MANAGERIAL INFORMATION SEARCH BEHAVIOR

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ABSTRACT

Several prior studies have examined aspects of purposeful information search behavior as a necessary component of the formulation of business policy and strategy. This study used a sample of credit union managers to assess how the managers' information search behavior related to various environmental sectors was affected by their perceived importance of those sectors. The study measured the use of five different types of information sources related to each of six environmental sectors. The five types of information sources included internal and external personal and written sources and the Internet. The six sectors were equally divided between the task and general environments. The hypothesized positive relationship between perceived sector importance and search behavior, measured by the frequency of information source usage, was supported for sectors related to the general environment, but not for sectors related to the task environment.

INTRODUCTION

The strategic management process is traditionally described as a continuous, proactive process where key decision-making personnel regularly seek information in order to assess the environment and, as a result, make necessary changes to the manner in which the organization operates in order to achieve strategic objectives (Aguilar, 1967; Hambrick, 1981; Hambrick, 1982). Alternatively, some recent researchers have found this process to be somewhat more intermittent and reactive. Various explanations for why the process has often more intermittent and less proactive have been offered. For example, Forbes (2007) views the process as controlled by practical considerations such as the "quantity" and "determinacy" of available information that is used in environmental assessment. Nadkarni & Barr (2008) describe the process as being driven by managerial perceptions of the relevancy of environmental sectors to performance and the degree a causal relationship between the environmental factors and their potential effects on the organization's performance are determinable. Thus, these studies support the premise that a manager's perceptions regarding the quantity, quality and relevancy to performance of available environmental information would influence their decision as to whether to invest the time and effort required to seek that information. Consistent with the expectation that relevancy to performance would be a motivating factor in the information search process, the present study tests the degree managers' information seeking behavior involved in scanning the environment is related to their perception of a particular environmental sector's importance.

In addition, the study avoids some of the methodological issues involved with previous studies that aggregated perceived environmental sector importance with other variables such as perceived environmental sector complexity and environmental sector rate of change into a single latent predictor variable, perceived strategic uncertainty. The study focuses on the more direct relationship between perceived environmental sector importance and scanning frequency using five different information sources for each of six sectors encompassing both the task and general environment. The relationships between perceived sector importance and source usage for both task environment sectors and general environment sectors can then be compared to determine if the relationship is uniform for the various sectors of the environment.

LITERATURE REVIEW AND HYPOTHESES

Perceived environmental importance as a predictor of scanning behavior originated from prior research that examined how persons, primarily managers in large businesses, scan the environment. These researchers (e.g. Daft, Sormunen & Parks, 1988; Sawyerr, 1993; Elenkov, 1997; May, Stewart & Sweo, 2000) have tested relationships between "perceived strategic uncertainty" and scanning behavior. The latent predictor variable "perceived strategic uncertainty" in these studies was comprised of three individual predictor variables (perceived rate of environmental change, perceived level of environmental complexity and the level of importance in obtaining the organizational goals). Specifically, the latent predictor variable perceived strategic uncertainty was calculated as follows (Daft et al., 1988:130):

$$PSU = I (C + R).$$

Where

PSU= Perceived Strategic Uncertainty
I = Perceived Sector Importance
C=Perceived Sector Complexity
R=Perceived Sector Rate of Change

These studies typically differentiated between the task and general environments pursuant to typologies developed by Bourgeois (1980) and Dill (1958).The task environment consisted of the environment closest to the organization including the customer sector, supplier sector and competitor sector. These sectors in the task environment are differentiated from those in the general environment, consisting of the social, demographic and economic sectors, because the task environment sectors more frequently involve direct contacts with the organization and the contacts between the general environment and the organization tend to be more indirect.

The Daft et al. (1988) study found the correlation between scanning frequency and perceived strategic uncertainty was higher for the personal modes than the written modes. Sawyerr (1993) studied the relationship between the perceptions of environmental uncertainty and environmental scanning behavior for a sample of CEOs in 47 Nigerian manufacturing firms. The results indicated there was a significant positive relationship between perceived environmental uncertainty scores and scanning interest scores in all environmental sectors. However, such a positive relationship between perceived environmental uncertainty scores and scanning frequency scores was not found for all sectors. Elenkov (1997) sampled 141 Bulgarian company executives. While the scanning mode results in Bulgaria were similar to the results in the United States based Daft et al. (1988) study, he did not find evidence to support the

hypothesized positive relationship between strategic uncertainty and scanning found in the United States sample.

May et al. (2000) sampled of Russian executives. In contrast to the results of the Daft et al. (1988) U.S. sample, the sector rate of change and sector complexity were not significant predictors of scanning behavior in the Russian sample. The researchers speculated the persistence of a turbulent economic environment and other factors faced by Russian executives, might result in decision-making that is more centralized and based on substantially less information compared to decision-making in the United States.

The differences in the results between these subsequent international studies and the original Daft et al. (1988) domestic study could be attributable to many factors investigated in other strategy studies involving information search. Forbes (2007) expressed certain caveats regarding the decision-making utility of scanning in certain contexts such as exist in these international scanning studies. Building on the ideas of Huber & Daft (1987), he proposes that in order for information gained from the scanning process to be useful in decision-making it must sufficient in both quantity and determinacy on order to achieve a satisfactory level of comprehensiveness. Information must be available in sufficient quantity to portray an environmental situation correctly. For example, if a firm has competitors that are privately held or report as part of a large conglomerate financial information about them may be scarce and scanning may be of reduced value. Similarly, information may be anecdotal, subject to conflicting interpretations or inconsistent. This lack of determinacy may also diminish the value of scanning and therefore affect the degree management engages in search activity. These conditions may account for some in the variance in results from the scanning studies in different countries where the information varies greatly as to its comprehensiveness.

Other streams of scanning research have investigated the process of environmental scanning and identified additional individual, organizational and industry level factors that influence scanning behavior. All organizational leaders have individual limitations as to the scope of information they can monitor (Cho & Hambrick, 2006; Cyert & March, 1963). Bogner & Barr (2000) describe cognitive frameworks that develop during the process of sensemaking (Daft & Weick, 1984) as managers interpret their environment from information gathered during scanning and then act based on their interpretations. Managers develop these frameworks based on past experiences with events and interactions with the environment, and then use these frameworks as an interpretive tool to make sense of current events and to decide what actions are appropriate responses to them (Reger & Palmer, 1996). As such, these frameworks that are developed are subject to the cognitive biases and values of the members of the dominant coalition in the organization (Hambrick & Mason, 1984), the perception by managers that alternatives can be developed to frameworks that are controllable (March & Shapira, 1987) and managerial judgments that they fit the social economic and cultural structures of the organization (Ocasio, 1997).The utility of these frameworks diminish as changes in the competitive environment become more frequent (Nadkarni & Barr, 2008). As a result, managers have to devote more time to those events in order to develop new cognitive frameworks that more relevant to the new environment.

Organizational level factors can also affect scanning behavior. Daft & Weick, (1984) suggested that many organizations have developed a culture of passive acceptance of environmental change and actively seek information on its environment only in response to a crisis. Other higher performing organizations have developed organizational competencies specifically designed to address rapidly changing environments such as the ability to rapidly acquire knowledge through the development of professional networks and through collaboration

once those networks are established (Eisenhardt & Martin, 2000; Teece, Pisano, & Shuen, 1997). Managers in the same organization tend to share a higher level of commonality of views regarding their environment than they do with their counterparts in other organizations which suggests that institutional forces tend to exert an isomorphic force with respect to directing scanning efforts (Sutcliffe & Huber, 1998).

At the industry level, Nadkarni & Barr (2008) found an interesting relationship between the context of an industry, particularly with respect to its amount of change and the focus of environmental scanning activity. They found managers in relatively stable industries tended to focus their scanning efforts more on the general or general environment. Managers in more unpredictable industries tended to focus their scanning efforts more on the task environment. This finding is particularly relevant in the present study as the industry is somewhat stable.

Several studies have explicitly studied the scanning-performance relationship to establish that scanning is relevant to organizational level outcomes. Daft et al. (1988) found executives in higher performing firms scan the environment more frequently and tailor their scanning to the degree of perceived strategic uncertainty better than CEOs in lower performing firms. In addition, CEOs in higher performing firms used more types of information sources than their counterparts in lower performing firms. More recent studies have reported results consistently supporting a relationship between scanning and performance. In a study of single industry manufacturing firms Danneels (2008) found significant positive relationships between scanning activity and development of second order competencies in marketing and research and development using frequency of participation by employees at trade shows, conferences and professional association activities together with frequency of contact with members of the scientific and research community and reading of specialized journals and magazines as measures of scanning activity. However, the relationship between scanning and performance may not only be a direct one, but also may be mediated by the many factors involved with sensemaking and decision-making (Narayanan, Zane & Kemmerer, 2011).

The use of latent variables in the prior studies originating with the Daft et al. (1988) study utilizing the latent variable "perceived strategic uncertainty" can be problematic for several reasons. One definition of a latent variable is a "hypothetical variable" (p. 607) derived from academic supposition (Nunnally, 1978). Another definition is a variable that is unmeasurable or unobservable (Jöreskog & Sörbom, 1979). An argument can be made that the three variables comprising Perceived Strategic Uncertainty in these prior studies are no more observable or measurable phenomenon than the proposed latent variable itself. A third definition describes results from data reduction such as factor analysis (Harman, 1960: Bollen, 2002). Performing factor analysis on the combined items of the component variables would have possibly yielded a latent variable that is distinct from the mathematically derived latent variable used in the prior studies. Another "formal definition" (Bollen, 2002, p.614) is that the measured variables forming the basis of the latent variable are uncorrelated. The component variables in the Strategic Uncertainty latent variable were indeed highly correlated in the May et al. (2000) study results.

Finally, aggregating these variables into the perceived strategic uncertainty latent variable makes the role of environmental sector importance in motivating information seeking behavior less clear than if each component variable were assessed individually with respect to information seeking behavior. The present study therefore assesses the relationship between one of the component variables in these previous studies, perceived environmental sector importance, and information source scanning frequency:

Hypothesis 1. There will be a significant positive relationship between perceived environmental sector importance and information source scanning frequency for elements of the task environment.

Hypothesis 2. There will be a significant positive relationship between perceived environmental sector importance and information source scanning frequency for elements of the general environment.

METHODS

Sample

This study sampled Credit Union managers attending multiple executive training programs conducted in the Southeastern United States. Attendees were sent the survey instruments to complete before attending the program and those that had not completed the instrument by the end of the sessions were contacted and reminded to return the completed surveys. Participants were given a small cash award for the return of completed surveys. Although the identities of the respondents were recorded for purposes of compensating respondents, the responses were kept anonymous. A total of 143 instruments were provided to attendees and 109 usable surveys were returned. A 76% response rate was achieved using this protocol.

The majority of the respondents were early to mid career women. Specifically, 61% of the respondents were women and 73% were between the ages of 26 and 46. Over 70% of the respondents had been with their employer greater than 7 years. The respondents were well educated with 67% having achieved a bachelors or masters degree. Credit Union managers at the career stage of the majority of respondents in the present study are not customarily involved in the formulation of corporate or business level strategy. Their managerial roles generally involve the management of a specific branch of the Credit Union or a major functional area within a particular branch or the operational headquarters of the Credit Union rather than top level management of the organization. Credit Union managers at this level are more commonly involved in implementing corporate or business level strategy formulated at a higher managerial level and formulating and implementing functional level strategy that is consistent with those strategies formulated by higher level management. However, the information scanning behavior related to the strategic roles assumed by these respondents is an important area of study because of the sheer number of decisions related to their strategic roles and the significance of these roles with respect to the maintenance of positive relationships with important outside stakeholders. The salience of these relationships to this level of management should be reflected in the degree these managers seek information in environmental sectors that pertain to these stakeholders.

Measures

The predictor variable, perceived environmental sector importance, was measured using a portion of a scale designed to measure executive scanning behaviors (Daft, Sormunen & Parks, 1988). The scale identifies six environmental sectors. These sectors include the competitive, customer, technological, regulatory, economic & socio-cultural sectors. Respondents were asked to rate each sector's importance in affecting the performance of their firm on a five point Likert-type scale with "not important" and "very important" as anchor points.

The criterion variable, scanning frequency, was measured using a different portion of the same Daft, Sormunen & Parks (1988) scale. Their scale measured the respondents scanning frequency by asking them to describe how often they used various information sources to get useful information regarding each of the six environmental sectors. The information sources included written external sources, written internal sources, personal external sources and personal internal sources. Written external sources included the Wall Street Journal, other periodicals, and trade magazines. Written internal sources included special studies, reports, and memos produced by the firm. Personal external sources included business associates, customers, vendors, officials and trade shows. Personal internal sources included subordinates, superiors, coworkers and staff. In contrast to the approach taken by Daft et al. (1988) in their instrument, the technology sector was categorized in the present study as a task environment sector and the regulatory sector was classified as a general environment sector. In addition, the Internet was included as an additional distinct information source. This source was not included in the Daft et al. (1988) study.

Perceived importance of each environmental sector constituted a different predictor variable for determining the scanning frequency criterion variable for each of the information sources. Therefore, scanning frequency was measured for each of the five types of information sources and for each of the six environmental sectors. Consequently, the significance of 30 bivariate relationships between perceived environmental sector importance and scanning frequency were assessed. The patterns of significance of these bivariate relationships were intended reflect the degree of support for the hypotheses.

RESULTS

Descriptive statistics for the predictor and criterion variables are shown in Tables 1 through 7. The significance of relationships between the predictor and criterion variables are shown in Table 8. The patterns of relationships were distinctly different between the elements of the task and general environments. As shown by Table 8, here were 10 positive significant relationships out of a possible 15 relationships between perceived sector importance and scanning frequency for sectors in the general environment. The relationships between Perceived Sector Importance and Frequency of Information Source usage were particularly strong for the sociocultural environmental sector. This evidence tends to support Hypothesis 2. However, there was only 1 positive significant relationship between perceived sector importance and scanning frequency for sectors in the task environment. This evidence tends not to support Hypothesis 1.

Table 1
DESCRIPTIVE STATISTICS
Predictor Variable
Sector Importance
Low=1 High=5

Sector	N	Mean	S.D.
Competitive Sector	106	4.32	.79
Customer Sector	106	4.68	.61
Technology Sector	106	4.37	.71
Regulatory Sector	106	4.07	.83
Economic Sector	106	4.26	.77
Sociocultural Sector	106	3.27	1.29

Table 2
DESCRIPTIVE STATISTICS
Criterion Variable
Scanning Frequency
The Competitive Sector
Daily=1 Weekly=2 Monthly=3 A Few Times a Year=4 Less Than Once a Year =5

Scanning Source	N	Mean	S.D.
Written External Sources (e.g. trade magazines)	107	3.33	.94
Written Internal Sources (e.g. reports, memos)	107	3.13	1.12
Personal External Sources (e.g. customers, vendors)	107	3.15	.95
Personal Internal Sources (e.g. superiors, coworkers, subordinates)	107	3.87	.89
The Internet	106	3.56	.95

Table 3
DESCRIPTIVE STATISTICS
Criterion Variable
Scanning Frequency
The Customer Sector
Daily=1 Weekly=2 Monthly=3 A Few Times a Year=4 Less Than Once a Year =5

Scanning Source	N	Mean	S.D.
Written External Sources (e.g. trade magazines)	107	3.25	1.06
Written Internal Sources (e.g. reports, memos)	107	3.40	1.17
Personal External Sources (e.g. customers, vendors)	107	3.23	1.07
Personal Internal Sources (e.g. superiors, coworkers, subordinates)	107	4.02	.91
The Internet	105	3.66	1.10

Table 4
DESCRIPTIVE STATISTICS
Criterion Variable
Scanning Frequency
The Technology Sector
Daily=1 Weekly=2 Monthly=3 A Few Times a Year=4 Less Than Once a Year =5

Scanning Source	N	Mean	S.D.
Written External Sources (e.g. trade magazines)	106	2.84	.98
Written Internal Sources (e.g. reports, memos)	106	2.71	1.00
Personal External Sources (e.g. customers, vendors)	107	2.79	.87
Personal Internal Sources (e.g. superiors, coworkers, subordinates)	107	3.39	.93
The Internet	105	3.41	1.03

Table 5
DESCRIPTIVE STATISTICS
Criterion Variable
Scanning Frequency
The Regulatory Sector
Daily=1 Weekly=2 Monthly=3 A Few Times a Year=4 Less Than Once a Year =5

Scanning Source	N	Mean	S.D.
Written External Sources (e.g. trade magazines)	105	2.83	.99
Written Internal Sources (e.g. reports, memos)	107	2.76	.99
Personal External Sources (e.g. customers, vendors)	107	2.64	.86
Personal Internal Sources (e.g. superiors, coworkers, subordinates)	107	3.08	.96
The Internet	106	3.23	1.06

Table 6
DESCRIPTIVE STATISTICS
Criterion Variable
Scanning Frequency
The Economic Sector
Daily=1 Weekly=2 Monthly=3 A Few Times a Year=4 Less Than Once a Year =5

Scanning Source	N	Mean	S.D.
Written External Sources (e.g. trade magazines)	106	3.51	1.12
Written Internal Sources (e.g. reports, memos)	107	3.16	1.27
Personal External Sources (e.g. customers, vendors)	107	3.07	1.01
Personal Internal Sources (e.g. superiors, coworkers, subordinates)	107	3.70	2.02
The Internet	106	3.70	1.14

Table 7
DESCRIPTIVE STATISTICS
Criterion Variable
Scanning Frequency
The Sociocultural Sector
Daily=1 Weekly=2 Monthly=3 A Few Times a Year=4 Less Than Once a Year =5

Scanning Source	N	Mean	S.D.
Written External Sources (e.g. trade magazines)	106	2.25	1.04
Written Internal Sources (e.g. reports, memos)	107	2.06	.99
Personal External Sources (e.g. customers, vendors)	107	2.34	1.11
Personal Internal Sources (e.g. superiors, coworkers, subordinates)	107	2.64	1.32
The Internet	106	2.82	1.40

Table 8
PATTERNS OF RELATIONSHIPS BETWEEN SECTOR IMPORTANCE AND INFORMATION SOURCE FREQUENCY OF USE

Bivariate Pairwise Correlations N = 104-106 *<.05 **<.01	Competitive Sector	Customer Sector	Technology Sector	Regulatory Sector	Economic Sector	Sociocultural Sector
Written External Sources (e.g. trade magazines)	.10	.05	-.04	.07	.15	.51**
Written Internal Sources (e.g. reports, memos)	.12	.12	.03	.20*	.28**	.47**
Personal External Sources (e.g. customers, vendors)	.00	.21*	.09	.24*	.18	.53**
Personal Internal Sources (e.g. superiors, coworkers, subordinates)	-.02	.18	-.02	.28**	-.05	.63**
The Internet	.06	-.01	-.03	.23*	.09	.53**

DISCUSSION

The purpose of this study was to assess the relationship between the perceived importance of an environmental sector and the frequency that managers utilize various information sources to get useful information regarding that sector. Managers presumably access information sources to reduce uncertainty which, in turn, results in better managerial decisions and organizational performance. The results indicated that the effect of perceived importance of each environmental sector did affect the frequency of use for various information sources related to that sector, but only for certain sectors. Significant relationships between perceived environmental sector importance and scanning frequency were not observed for sectors of the task environment, but were observed for sectors of the general environment. There are several possible explanations for these results.

One possible explanation for the lack of significant relationships between the perceived importance of the task environment and the frequency of information search related to the sectors in that environment is that the task environment for the respondent's industry in this study were deemed to be less important so that it would not necessary to frequently gather information regarding them. However, as shown in Table 1, the mean scores for perceived importance of the environment sectors were higher for the task environment than for the general environment which did show significant relationships with scanning frequency. The frequencies of use of information sources were generally higher for the task environment sectors than the general environment sectors, but the standard deviations of responses for the predictor variable, deemed importance, were lower than in the task environment sectors than in the general environmental sectors. This apparently resulted in stronger relationships between deemed sector importance and frequency of information source usage for the general sectors than the task sectors. Therefore, when managers routinely access information of certain sectors of the environment in the regular course of their duties it reduces the possibility that a single predictor variable related to information search behavior, such as deemed importance of a particular sector, will affect the frequency in which information about the sector is sought.

The Nadkarni & Barr (2008) finding with respect to the relationship between the characteristics of an industry, particularly with respect to its amount of change, and the focus of environmental scanning activity suggests another possible explanation for the findings in this study. Their findings suggest that managers may tend to focus scanning efforts on based on the relative stability in an environmental sector. The stable nature of the Credit Union industry task environment could be expected to result in more scanning related to the general environment. However, in the present study the deemed importance of environmental sectors was higher in the task environment sectors, but there were not significant positive relationships with information source usage for those sectors.

Another possible explanation may be a function of the type of information that would be deemed useful by a manager in assessing each sector. Compared to task environment information, information related to the general environment tends to be more widely available, easier to access, written in less technical language and whose correct interpretation is less critical to the success of the manager and the organization. Therefore, information on these sectors may be more likely to be accessed. This possibility is consistent with prior research on the dual process theory of decision-making.

Many recent descriptive decision-making models are based on two distinct systems of reasoning (Sloman 1996). Although the terminology used to describe these two systems varies, the characteristics of the two systems are described in a similar manner. Epstein (1994) described the two systems as experiential and rational; Sloman (2002) characterized them as associative and rule-based, Stanovich and West (2000) and Kahneman (2003) have labeled them as System 1 and System 2. The System 1 or the experiential system describes a fast, effortless, intuitive process that is subject to emotional influences and is utilized to make many decisions in a near simultaneous manner. The System 2 or the rational system describes a slow, effortful, rational process that results in decisions that are made sequentially rather that simultaneously. The underlying assumptions regarding the use of the two systems are that System 2 reasoning requires a greater use of appropriate information and analysis (Kahneman 2003) and that System 2 or logic-based reasoning by the decision maker will result in better solutions to more complex problems than a greater use of System 1 or intuitive reasoning (Stanovich and West 2002). Therefore, in the present study information seeking activity for the general environment may be more frequent because it is quicker and easier to access.

The results in Tables 2 through 7 provide some support for this explanation. The two most frequently accessed information sources for all six environmental sectors were personal internal sources, which included subordinates, superiors, coworkers and staff, and the Internet. Presumably, managers access these sources regularly and gathering information regarding environmental sectors from these sources requires very little additional effort. Gathering information from written external and internal sources and from personal external sources such as business associates, customers, vendors, officials and trade shows would likely require substantially more effort and planning. However, information that is the easiest to access may not be the most accurate. Information from the Internet may not always be reliable. Information gained from within the organization may be subject to institutional forces that result in a degree of isomorphism with respect to how information is expressed and interpreted (DiMaggio & Powell, 1983). The relatively less frequent use of personal external sources to monitor all environmental sectors suggests that this information source, which may often be more objective, may be underutilized.

LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

The length and scope of survey instruments are limited due to the general reluctance of individuals to participate in complex or time consuming survey-based data collection efforts (Newby, Watson, & Woodliff , 2003; Markman, Balkin, & Baron, 2002). This limits the ability to assess the relationship of large numbers of variables. Unfortunately, many relationships involved in assessing cognitive behavior can be quite complex and can involve many variables. As a result multiple studies may be necessary to fully assess these types of relationships. These limitations often also preclude the desirable use of multiple measures of a single construct. An additional bias resulting from obtaining the data using a single method is possible (Avolio, Yammarino & Bass, 1991; Spector, 1987). Spector (1987) found this bias was of minor consequence in an analysis of employee self-report measures. Relative rankings of similar items were used for analysis. In the present study, any common method bias would similarly affect those items and be less influential with respect to individual rankings.

Collecting cognitively based data from managers related to decision-making behavior often requires the use of self-report measures and reliance on the recollection of past behaviors or attitudes. However, Brewin, Andrews and Gotlib (1993) have determined the retrospective

recall of specific events or facts is quite accurate. The study involved only one industry. This methodology eliminates any industry effects on the results, but also imposes possible limits on the generalizability of the findings to managers in other industries. Designing studies addressing these additional research questions that simultaneously include managers from two or more industries should increase the generalizability of their findings.

While providing evidence to support the differential frequency of use of various information sources by managers based on their perceived importance of environmental sectors in which their organization operates, this study raised issues to be resolved in future studies. The study assessed the quantity of information seeking behavior by measuring the number of times information sources, identified in numerous previous studies, were judged to be helpful. A future study that includes an expanded list of information sources within each information source category should prove additional insights although constraints on data collection may require multiple studies in include numerous potential information sources. For example, identifying the hierarchical position of respondents within an organization should add a higher level of understanding whether internal information exchanges regarding environmental sectors is primarily among peers or among personnel at different hierarchical levels. The type of data might determine the extent the information gathering from personal internal sources is a byproduct of normal social interaction or the result of a strategy driven quest. Seeking information from external information sources often requires considerable effort and expense. Therefore, soliciting the opinions of respondents regarding what they perceive as the most helpful external personal and written sources might not only provide useful directions for future research, but also provide guidance to organizational leadership seeking to allocate resources to seek this information and to provide training to its managers in directing information search efforts. Because the Internet was consistently rated as a frequently used source, further research is warranted to identify sites are the most frequently visited to provide information on each environmental sector and which are perceived to be the most helpful by managers. Organizational leaders can use this information to assess whether to encourage or discourage the use of particular websites.

Finally, because one possible explanation for the lack of relationship between perceived importance of task environmental sectors and frequency of scanning relates to possible difficulty in obtaining information future studies could include an assessment of respondents perceived effort associated with obtaining information related to each of the sectors and the various information sources related to them.

PRACTICAL IMPLICATIONS

The results of this study suggest many managers do not perform scanning activity related to environmental sectors based on how important they perceive the sectors are to organizational performance. The decision-making processes of managers should consider changes in the environment to the extent those changes bear on those processes if optimum decision outcomes are to be achieved. That objective may not be achieved if an improper scanning process omits important information about such changes. Scanning related to the task sector is arguably more important to organizational performance than the general sector, but is less influenced by the perceived importance of the sector. One possible explanation for this phenomenon is that the scanning related to the task environment requires more time and effort. This suggests that organizations do not sufficiently encourage managerial scanning behavior by allocating sufficient resources or incentives.

Organizational leaders have the potential to improve the scanning performance of their lower level managers in many ways. First, the creation of an organizational culture that encourages managers to regularly seek information, particularly from personal external sources, can be encouraged by providing resources to meet with these sources on a frequent basis and by recognizing superior performance in seeking and obtaining information from them. Second, organizational leadership can clearly articulate the strategic direction of the organization and what environmental factors are critical to the success in executing the preferred strategic direction. Finally, managers can be provided training in which information is the most helpful in monitoring changes in the environmental sectors and where that information can be found.

Thus, the information seeking behavior of managers can be greatly influenced by not only the perceived importance of an environmental sector to organizational performance, but also their perceptions of the importance of the information seeking process to their organizational leaders as well. An organization where managers do not sufficiently recognize the importance of obtaining information regarding changes to environmental sectors and how that lack of information may impede organizational performance will likely be at a significant competitive disadvantage compared to an organization that articulates a strategic direction to its managers, describes what environmental information relates to that direction and facilitates an going quest for that relevant environmental information.

REFERENCES

Aguilar, F. J. (1967). Scanning the business environment. MacMillan: New York.

Avolio, B., Yammarino, F., & Bass, B. (1991). Identifying common methods variance with data collected from a single source: An unresolved sticky issue. *Journal of Management, 17,* 571-587.

Bogner, W. C. & Barr, P. S. (2000). Making sense in hypercompetitive environments: A cognitive explanation for the persistence of high velocity competition. *Organizational Science, 11 (2)* 212-226.

Bourgeois, L. J. (1980). Strategy and environment: A conceptual integration. *Academy of Management Review, 5,* 25-39.

Bollen, K.A. (2002). Latent variables in psychology and the social sciences. *Annual Review of Psychology, 53,* 605-634.

Brewin, C. R., Andrews, B., & Gotlib, I. H. (1993). Psychopathology and early experience: A reappraisal of retrospective reports. *Psychological Bulletin, 113,* 82-98.

Cho, T. S. & Hambrick, D. C. (2006). Attention as the mediator between top management team characteristics and strategic change: The case of airline deregulation. *Organizational Science, 17 (4),* 453-469.

Cyert, R. M. & March, J. G. (1963). A behavioral theory of the firm. Englewood Cliffs, N. J.: Prentice Hall.

Daft, R. L., Sormunen, J., & Parks, D. (1988). Chief executive scanning, environmental characteristics and company performance: An empirical study. *Strategic Management Journal, 9,* 123-139.

Daft, R. L. & Weick, K. E. (1984). Toward a model of organizations as interpretation systems. *Academy of Management Review, 9 (2) 284-293.*

Danneels, E. (2008). Organizational antecedents of second-order competences. *Strategic Management Journal, 29,* 519-543.

Dill, W. R. (1958). Environment as an influence on managerial autonomy. *Administrative Science Quarterly, 3,* 409-443.

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review, 48,* 147-160.

Eisenhardt, K. M. & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal, 21,* 1105-1121.

Elenkov, D. S. (1997). Strategic uncertainty and environmental scanning: The case for institutional influences on scanning behavior. *Strategic Management Journal, 18 (4),* 287-302.

Epstein, S. (1994). Integration of the cognitive and psychodynamic unconscious. *American Psychologist,* 49, 709-724.

Forbes, D. P. (2007). Reconsidering the strategic implications of decision comprehensiveness. *Academy of Management Review,32 (2),* 381-376.

Hambrick, D. C. (1981). Specialization of environmental scanning activities among upper level executives. *Journal of Management Studies, 18,* 299-320.

Hambrick, D. C. (1982). Environmental scanning and organizational strategy. *Strategic Management Journal, 3,* 159-174.

Hambrick, D. C. & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review, 9 (3),* 193-206.

Harman, H. H. (1960). Modern factor analysis. Chicago: University of Chicago Press.

Huber, G. & Daft, R. (1987). The information environments of organizations. In F. Jablin, L. Putnam, K. Roberts & L. Porter (Eds.) *Handbook of organizational communication.* 130-164. Newbury Park, CA: Sage.

Jöreskog, K., & Sörbom, D. (1979). *Advances in factor analysis and structural equation models.* Cambridge, MA: Abt Books.

Kahneman, D. (2003). A perspective on judgment and choice. *American Psychologist, 58*(9), 697-720.

March, J. G. & Shapira, Z. (1987). Managerial perspectives on risk and risk taking. *Management Science, 33 (11)* 1404-1418.

Markman, G. D., D. B. Balkin, and R. A. Baron (2002). "Inventors and new venture formation: The effects of general self-efficacy and regretful thinking," *Entrepreneurship Theory and Practice,* 27, 149-165.

May, R. C., Stewart, Jr., W. H., & Sweo, R. (2000). Environmental scanning behavior in a transitional economy: Evidence from Russia. *Academy of Management Journal, 43*(3), 403-427.

Nadkarni, S. & Barr, P. A. (2008). Environmental context, managerial cognition and strategic action: An integrated view. *Strategic Management Journal, 29,* 1395-1427.

Narayanan, V. K., Zane, L. J. & Kemmerer, B. (2011). The cognitive perspective in strategy: An integrative view. *Journal of Management, 37, 1* 305-351.

Newby, R., J. Watson, and D. Woodliff, (2003). "SME survey methodology: Response rates, data quality, and cost effectiveness," *Entrepreneurship Theory and Practice,* 28, 163-172.

Nunnally, J.C. (1978). *Psychometric theory.* New York: McGraw Hill.

Ocasio, W. (1997). Towards an attention-based view of the firm. *Strategic Management Journal, 18,* 187-206.

Reger, R. K. & Palmer, T. B. (1996). Managerial categorization of competitors: Using old maps to navigate new environments. *Organization Science 7 (1)* 22-39.

Sawyerr, O. O. (1993). Environmental uncertainty and environmental scanning activities of Nigerian manufacturing executives: A comparative analysis. *Strategic Management Journal, 14,* 287-299.

Sloman, S. A. (1996). The empirical case for two systems of reasoning. *Psychological Bulletin, 119*(1), 3-22.

Sloman, S. A. (2002). Two systems of reasoning. In T. Gilovich, D. Griffin & D. Kahneman (Eds.), *Heuristics and biases: The psychology of intuitive judgment* (pp. 379-396). Cambridge: Cambridge University Press.

Spector, P. (1987). Method variance as an artifact in self-reported affect and perceptions at work: Myth or a significant problem. *Journal of Applied Psychology, 72,* 438-443.

Stanovich, K. E., & West, R. F. (2000). Individual differences in reasoning: Implications for the rationality debate. *Behavior and Brain Sciences, 23,* 645-665.

Stanovich, K. E., & West, R. F. (2002). Individual differences in reasoning: Implications for the rationality debate. In T. Gilovich, D. Griffin, & D. Kahneman (Eds.), *Heuristics and biases* (pp. 421-440). New York: Cambridge University Press.

Sutcliffe, K. M. & Huber, G. P. (1998). Firm and industry perceptions as determinants of executive perceptions of the environment. *Strategic Management Journal, 19,* 793-807.

Teece, D. J., Pisano, G. & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal, 18 (7)* 509-533.

CONTROL SYSTEM, STRATEGY AND LEARNING

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ABSTRACT

Up to now, there have been many literatures which explore the impact of management control system (MCS) on strategy. Unfortunately, there are still few studies which highlight the impact of MCS on strategy based on interactive approach and process approach (Henri, 2006; Kober et al., 2007). Kober et al. (2007) found that MCS will shape company's strategy. Roberts (1990) also said that the use of interactive MCS (interactive control system) will facilitate the strategy formation process.

Kober et al. (2007) and Roberts (1990) used case study qualitative method. Case study enables more detailed analyses of strategy formation process, in addition many authors encourage the use of case study (Dent, 1990). Generalization of this qualitative result, however, is still limited because of many specific organizational characteristic. Interactive control system and strategy will influence internal and external learning process. This study shows that control system not only help strategy formation but also improve the learning process in an organization, yet the knowledge of how strategy influence learning process is still limited (Mulcaster, 2009).

This study aims to investigate the relationship between the use of MCS and strategy formation process which results in intended and emergent strategy. These two strategies are useful to improve learning. This study uses structural equation modeling as multivariate analysis. Samples used in this study are the upper and middle manager in manufacturing industries in Indonesia. The author uses AMOS 16 as the aid tool to overcome structural equation modelling (SEM) problem. The findings for this study are: interactive control system positively affects the intended and emergent strategy, interactive control system positively affects the internal and external learning; intended strategy and emergent strategy formed by interactive control system will positively affect internal and external learning. The results of this study can be generalized rather than those of previous studies.

Keywords: interactive, formation strategy, learning

INTRODUCTION

When a strategy is implemented, it sometimes needs an alteration to adjust with the change in surrounding environment of a firm. Therefore, a formed strategy may be accomplished as it has already planned before. The formed strategy can also be realized in modified shape, or even completely different strategy. Strategy formation process also demands manager to learn more rapidly (Elcock, 1996). As a result, it needs a control system which can not only help strategy formation process but also improve the learning process in an organization (Kober et al., 2007; Simon, 2000). Learning process to reach sustainable competitive advantage derives from

internal and external learning (Schroeder et al., 2002). Management control system (MCS) provides valuable information in decision making, planning and evaluation process (Anthony & Govindarajan, 2004; Davila, 2005; Merchant & Otley, 2006). MCS attains the collective and individual cooperation in organizational unit and becomes the channel to every employee's effort in accomplishing company's specific aim (Anthony & Govindarajan, 2004; Ouchi, 1979; Flamholtz, 1983).

There has been a significant development of researches which explore the relationship between MCS and strategy (Langfield-Smith, 2007). MCS is the only managerial instrument used to implement a desired strategy (Anthony & Govindrajan, 2004). Therefore, every company must have orientation and business strategy reflected in MCS (Langfield-Smith, 1997).

Up to now, there have been many literatures which explore the impact of management control system (MCS) on strategy. Unfortunately, there are still few studies which highlight the impact of MCS on strategy based on interactive approach and process approach (Henri, 2006; Kober et al., 2007). Kober et al. (2007) found that MCS will shape company's strategy. Roberts (1990) also said that the use of interactive MCS (interactive control system) will facilitate the strategy formation process.

Kober et al. (2007) and Roberts (1990) used case study qualitative method. Case study enables more detailed analyses of strategy formation process, in addition many authors encourage the use of case study (Dent, 1990). Generalization of this qualitative result, however, is still limited because of many specific organizational characteristic. As a result, future study needs to provide causal relationship between MCS and strategy based on quantitative method, consequently we can get a more generalized result (Kober et al., 2007).

Many authors have conceptualized strategy formation process into two parts (Chenhall, 2005). First, strategy that becomes an intention (intended), a pre formulized strategy by top management in a company. This kind of strategy may not be used if an unexpected change happens. Second, a strategy that has immediate nature (emergent), it comes out either from a process or the strategy development, to respond on sudden changing environment.

Strategy formation process must be able to adapt itself into any situation. By constantly learning the feedback, management will find out the best way to implement the formed strategy (Elcock, 1996). Having formed a strategy, an organization must collect and analyze information needed to reach the successfulness of strategy implementation. It is in line with Mulcaster (2009) who said that one succeeded factor in implementing a strategy is organizational learning. A process to collect and analyze any information is called organizational learning (Senge, 1990). Yet, the knowledge of how strategy influence learning process is still limited (Mulcaster, 2009).This study aims to investigate the relationship between the use of interactive control system a part of MCS with strategy formation process and its impact on learning. Learning which is used in this study is internal and external learning (Schroeder, 2002).

The remainder of the paper is organized as follows. Theoretical background and hypotheses development, research method, result, discussion, and the final section is conclusion, limitation and future research.

THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

Interactive Control System

Interactive control system (ICS) is a formal system used by top managers to involve themselves in regular and personal decision making activities (Simons, 1987; Simons, 1994; Simons, 2000). Interactive control system is used to stimulate any dialogue, interview and bridge the information gap among hierarchy levels, functional departments and profit centre in an organization. Interactive diagnostic control system can be made by constantly giving attention and focusing on manager's interest. Interactive control system is used by top management to guide strategy formation process informally by setting personal involvement, intimacy or closeness with problem and commitment matter (Mintzberg, 1987).

A system will be called interactive system if top manager reports that the system is frequently used personally and regularly. Interactive system becomes top priority for top managers and their subordinates (Simon, 1987; Henri, 2006). This system is used by management in direct routine meeting with subordinates and other parties in a company to review data and generate action plans. Top manager must decide which aspect of management control system that will be used interactively and which aspect that will be the program (Simon, 1987). MCS becomes interactive control when a business manager uses planning and controlling procedures, and they also actively monitor and interfere decision making activity which continuously occurs among subordinates in a company (Simons, 1990). Intervention will give opportunity for top management team to have an open and fair argument based on data, acquisition and other action plans, for that reason interactive management control demands continuous attention from subordinate in every level of a company. (Simons, 1990).

Interactive control system's function is to monitor strategic uncertainties. Top management in a company will uncover their possessed value and reference to individual in an organization who gives input to decision making process. Observation and monitoring are actions to search for unexpected matters, interactive management control will guide their organizational member on how to search for unexpected matters and what kind of intelligence information will be collected (Simons, 1990). Unexpected matters or expectation will probably become new alternative, new preference or a change for the company (Feldman & March, 1981). New alternative decision making by the top manager is really needed when the decision itself is closely related with strategic policy or strategic change in a company (Mintzberg, 1973). Interactive control system enables top manager to have complete information on taken and distributed decision in a company.

Strategy Formation Process

One characteristic of strategy formation process in present taxonomy has been explained by Mintzberg & Waters (1985); Mintzberg & McHugh (1985); Mintzberg (1990, 1994); Mintzberg (1978, 1987, 1994). In strategy formation process, there are two simultaneous independent processes (Mintzberg & Waters, 1985). First, intended strategy (InS) viewed as a statement which has proactive purpose and formal shape and it has been planned before a

decision is taken and or an action is performed. Having finished strategy formation, the process will be followed with implementation phase (Langfield-Smith, 1997). This kind of strategy is called as intended strategy. Intended strategy is a plan that becomes the company's purpose and it has been predicted as the most suitable action to reach company's purpose (Mintzberg, 1978). If the existing situation is appropriate, maneuver, trick or thing like that will be used to halt and threat competitor from entering the market (Mintzberg, 1978). Basic concept of this strategy states that entire action must be planned well in advance. In this case, intended strategy explains plans from top to bottom position.

The second strategy is emergent strategy (ES). Emergent strategy is the result of cumulative influence from daily decision made by middle manager (Mintzberg, 1994). Their decision is usually tactical, and not framed as strategic decision. Emergent strategy is a strategy to give responses on unpredicted external threat (Mintzberg, 1994). This kind of strategy derives from daily activities or routine business, and it sometimes comes from an unpredicted idea or way of thought from bottom to top position of a company.

Internal Learning

Internal learning (IL) process includes employee training in multifunctional way (Gerwin & Kolodny, 1992) and it also becomes the process to unite ideas or suggestions from every employee in company (Hall, 1987). Internal learning aims to make product process and development in a company. Further, internal learning in routine activities will lead into a change that explains the development of path dependent from manufacturing company's process (Nelson & Winter, 1982). Internal learning improves the strategic ability by improving knowledge sharing among individuals in an organization. Each individual is able to learn from its work team, as part of an organization and the surrounding environment (Schroeder et al, 2002).

External Learning

In manufacturing industry context, Schroeder et al. (2002) defines external learning (EL) process as a learning process among organizations through its capability to solve problem between costumer and supplier. External learning in manufacturing industry context, is a kind of inter organizational learning process. It is performed through problem solving activity which comes out from the interaction between customer and supplier, and finally create a tacit knowledge that is imperfectly imitated by its competitor.

Technical certification of production method is held by supplier and customer. The formation of continuous relationship between company and its supplier explains that customer is the main and most important part of routine activities (Schroeder et al., 2002). This customer relationship will create an implicit knowledge which is imperfectly imitated by competitor (Madhok & Tallman, 1998). External learning process also occurs through long term relationship formed in the contract endorsed between the company and its supplier (Gerwin & Kolodny, 1992). External learning can take a shape as an input from supplier to end product, quality design and continuous practice improvement (Schroeder et al., 2002).

Interactive Control System and Strategy Formation Process

Roberts (1990) in his three years study observes ELB Ltd, acquitted by Conglom Inc. in England. He found out about how ICS use will influence strategy formation process. Kober et al. (2003), in their four years longitudinal study (retrospective) observed the adjustment between ICS and strategy. Kober also predicted the natural way and ICS use in a strategy. This kind of study took samples from pathological server in Western Australia. Their result states that ICS use is more important in strategy process compared with management control system design. Kober et al. (2003) states that changes in management control system will also change the organizational strategy.

Kober et al. (2007) extended his study in 2003 to investigate the relationship between ICS and strategy. Kober et al. (2007) developed two main research questions to explain the relationship between ICS and strategy, and tested it by using public entity that experienced strategic change. This study is five years retrospective longitudinal study, and it also involves archival data, interview and distributed questionnaire. Kober et al. (2007) finds out that ICS mechanism will positively influence strategic process. It is in accordance with contingence theory that states that the existing strategy will be influenced by management control system. The above explanation will lead into H1 and H2 as follow:

H1 *Interactive control system positively affects the intended strategy*

H2 *Interactive control system positively affects the emergent strategy*

Interactive Control System And Learning

Interactive control system is a double loop learning system. It is more complicated than single loop learning system (Argyris, 1977). The purpose of interactive control system is to improve manager's ability in anticipating, managing and organizing probable future uncertainties (Simons, 2000). Organizational learning is a learning process derives from past experience (Levitt & March, 1988).

Levitt & March (1988) state that the lack of experience and complexity in a certain situation may halt the learning process. Interactive system aims to involve the manager in scanning and searching for behaviors which may trigger the emergent strategy (new behavior and new experience). Interactive strategy will help the manager to overcome difficult situation since the managers may have lack of experience.

Simons (1990, 2000) explains that interactive system is a facilitator in learning process. It is a system implemented by the company to ease them in processing information and facilitating learning process by using vertical information channel in every level of a firm. Control system will help the company to form a new strategy, explains new ideas and possibilities. It also supports and improves curiosity and seeking behavior (Dent, 1990; Simons, 1994). Control system signifies the lowest part of a firm about the most important part in new ideas implementation (Simons, 1990).

Using samples from 63 hospitals, Abernethy & Brownell (1999) provide empirical support on interactive control and organizational learning relationship. They find out that interactive control system will facilitate organizational learning. Organizational learning will then have higher level when the existing budget system is used interactively instead of using it in diagnostic way (Henri, 2006).

ICS will be a tool to improve internal ability of a company. As a result, it enables the company to change the existing strategy and respond the changes in an environment (Bisbe & Otley, 2004). ICS focuses on open dialogue and communication, the use of interactive control system plays a role as a tool to reduce hierarchical and functional borders that halt the information flow in a company (Abernethy & Brownell, 1999; Abernethy & Lillis, 1995). By keeping open dialogue and argument, a company will always support the information exchange, therefore the use of MCS in interactive way will contribute to knowledge and information distribution, communication flow and the production of spontaneous strategy (Malina & Selto, 2004; Simons, 1995). Interactive control system will contribute to learning system. Based on RBV theory, internal and external learning process (St. John & Harrison (1999)) will be naturally distinctive, thus it will be imperfectly imitated by competitor and manufacturing entrepreneur (Schroeder et al., 2002). The empirical result and literature review will lead on H3 and H4 as follow:

H3 Interactive control system positively affects the internal learning

H4 Interactive control system positively affects the external learning.

Strategy And Learning

Collis & Montgomery (1995) investigated the relationship between strategy formation process with internal and external learning by using traditional approach. According to Collis & Montgomery (1995) and resource based view (RBV) theory, the combination of internal and external learning will be connected with traditional approach in strategy formation process. Strategy formation process will facilitate learning (Elcock, 1996; Mintzberg, 1998; Mulcaster, 2009). Strategy formation process consists of intended and emergent strategy that demands manager of a company to rapidly learn and adjust with the environment's change. It is a must for a company that wants to survive in business industry. In this case, learning consists of internal and external learning. It is about transformation as well as perpetuation; it must involve individual cognition and social interaction, cooperation as well as conflict; it has to include analyzing pre and post programming as well as negotiating. All of these must respond the demanding environment (Mintzberg, 1998). It is in accordance with resource based view theory that derives from managerial and practical perspective, competitiveness and core competence. The explanation above will lead to the H5, H6, H7 and H8.

H5: Intended strategy positively affects the internal learning

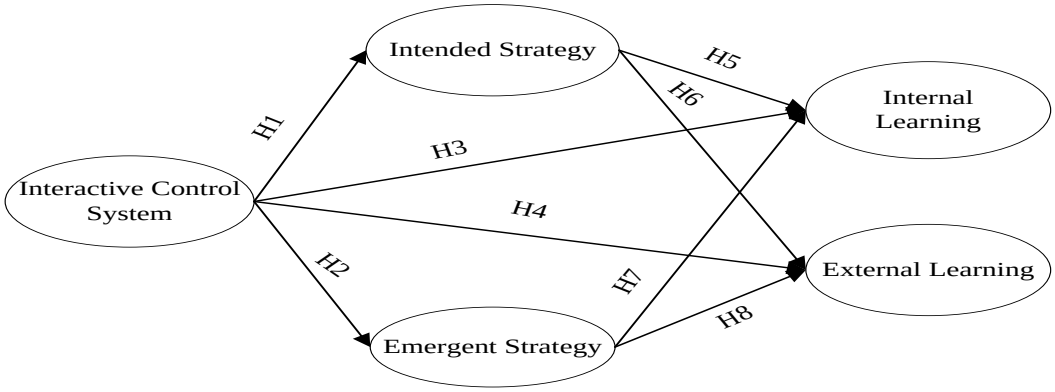
H6: Intended strategy positively affects the external learning

H7: Emergent strategy positively affects the internal learning

H8: Emergent strategy positively affects the external learning

The relationship between interactive control system, strategy formation process and internal learning can be described as empirical model (figure 1):

Figure 1. Empirical Model



RESEARCH METHOD

Indicators to measure the interactive control system developed by Simons (1995); Henri (2006). These indicators are: develop an open discussion with manager, subordinate and peer in a meeting (ics1); develop challenge and open argument based on data, assumption and action plans (ics2); provide general view of organization (ics3) commit to organization (ics4); focus on the main problem (ics5); focus on succeeded factor (ics6); develop a universal language in an organization (ics7). Indicators to measure intended strategy construct adopted from Boyd & Reuning-Elliot (1998): long-term goal (ins8); trend analysis (ins9); competitor analysis (ins10); mission statements (ins11); ongoing evaluation (ins12) action plans (ins13); annual goals (ins14). Indicators to measure emergent strategy are developed by Mintzberg & Waters (1985): opportunistic strategy (es15); unstructured intuition strategy (es16); bottom up strategy (es17). Indicators to measure the internal learning based on Schroeder et al. (2002): training on different unit (il18); training with multitasking ability (il19); suggestion to improve process and product (il20); implementing suggestion (il21). Meanwhile, the indicators of external learning based on Schroeder et al., (2002): building a good long term relationship with the supplier (el22); building closed communication with supplier about quality and design change (el23); feedback on quality and delivery performance (el24); active involvement of customer in product design process (el25).

Analytical unit in this study is the upper middle manager in manufacturing industry in Indonesia. Consideration and criteria to determine samples are the upper middle manager who has at least two years experience and work in a prospector manufacturing industry. Prospector industry has characteristics like: high learning level, ability to explore and perform trial and error

(Miles & Snow, 1978; Simons, 1990; Bhimani & Langfield-Smith, 2007). Data in this study is collected by distributing the questionnaires directly to respondents. The distributed questionnaires are 429. There are 387 returned questionnaires, 113 questionnaires can not be used, as a result it leaves 274 usable questionnaires with response measurement scale 1-7.

This study uses structural equation modeling as multivariate analytical tool that enables the author to test the relationship among complex variables and get a comprehensive description on model. SEM has been considered as valuable statistical tool for social research. SEM has been a must for non experimental research. This study uses AMOS 16 Software as aid tool to overcome SEM problem.

RESULT

Respondent descriptive

Respondents in this study are the leader of manufacturing industry with at least 5 years experience. They decide the organizational strategy, have a wide organizational point of view, and provide the biggest influence to organizational end results. Top management becomes the most suitable informant for overcoming some critical important problems such as controlling and strategy, and decision making process. Total distributed questionnaires are 429. There are 155 unreturned questionnaires, and 274 returned questionnaires. 78 percent of respondents live in Jakarta as the capital city, 15 percent live in Banten and 5 percent live in Western Java Province.

Structural Equation Modeling

In confirmatory factor analyses of exogenous construct, interactive control system must be modified by eliminating some indicators that have loading value below 0,5: ics1, ics3, ics4 and ics6. Endogenous constructs, ins10, ins12, ins13 and ins 14 are the indicators to measure more than one construct. Therefore the eight constructs need to be dropped out from the model. Having modified CFA exogenous and endogenous factors, and remaining indicators, we will reanalyze the process, and it will result in AMOS output as seen in table 1.

Data normality testing is performed by using critical value criteria as ± 2.58 on significant rate at 0.01 (Ghozali, 2007). If critical value of the present result is larger than the criteria value, it will be assumed that data distribution is not normal. Structural Equation Modeling as part of normality assessment has critical ratio columns (CR) value as 2.45, it means that the value is less than the critical value 2.58. Each variable's value is in +2 till -2 for skewness and less than 7 for kurtosis (Byrne, 2010). Therefore, the result of data normality testing from this study has fulfilled the requirement to be categorized as multivariate normal.

Multivariate outliers evaluation is performed by using mahalonobis distance calculation for each variable. Mahalonobis distance calculation shows that the distance in each variable has met multidimensional requirement (Byrne, 2010). Mahalanobis calculation is based on chi square value. Distribution table $\chi 2$ at degree of freedom has as many as variable used in this study. The author uses 25 variables at $p < 0.001$ as $\chi 2$ (25; 0.001 = 52.62). Therefore, data in

this study has mahalonobis distance more than 52.62 and it is considered as multivariate outliers. There is no mahalanobis distance value that is bigger than 52.62 from all data in this study.

Table I
Summary of measuremnet scale, normality, reliability and validity

Variable	Skewness	Kurtosis	Factor loading	Cronbach'α	AVE	CR
Interactive control system				0.87	0.65	0.85
ics2	0.82	0.99	0.97			
ics5	0.17	0.14	0.97			
ics7	0.63	0.37	0.99			
Intended strategy				0.86	0.66	0.86
ins8	0.33	0.97	0.58			
ins14	0.26	0.98	0.52			
Emergent strategy				0.75	0.62	0.87
es15	0.36	0.87	0.98			
es16	0.27	0.77	0.98			
Internal learning				0.81	0.59	0.84
il18	0.93	0.41	0.63			
il20	0.76	0.82	0.68			
il21	0.93	0.45	0.74			
External learning				0.88	0.62	0.84
el23	0.15	0.90	0.98			
el24	0.23	0.82	0.99			
el25	0.94	0.40	0.95			

To observe multicollinearity or singularity in variable combination, the author observes covariance matrix determinant. AMOS 16.0 program will automatically signify a warning for singular covariance matrix. Multicollinearity indicators can also be seen in correlation between constructs that have value > 1 (Byrne, 2010). Since the analytical result does not show construct correlation > 1, thus covariance matrix is non singular and can be analyzed.

Table 2, goodness of fit index, shows a good index. RMSEA value as 0.042, is in accordance with the requirement to have value less than 0.08. GFI value as 0.955, is in accordance with the required values as 1 (Joreskog, 1993), CFI evaluation value as 0.994 and Hoelter value as 275, with maximum sample as 274, has significant rate at 0.01 (Hoelter, 1983). As a whole, those criteria show fit acceptance rate of the model.

DISCUSSION

Having performed confirmatory analyses and structural equation modeling testing which include 4 constructs in the model, the author then tests the proposed hypotheses. The results can be seen on P values from structural models (Table 2). Hypothesis 1 states that interactive control

system positively affects the intended strategy. According to estimation parametric result between interactive control system and intended strategy, it shows a positive association as 0.731 and significant at 0.001, consequently H1 is accepted.

Hypothesis 2 states that interactive control system positively affects the emergent strategy. According to estimation parametric result between interactive control system and emergent strategy, it shows a positive association as 0.715, and significant at 0.001. Consequently, H2 is accepted. Both results are supported by Kober et al. (2007) and Roberts (1990). They stated that management control system will be adjusted with strategy process. Interactive control system is a control that has distinctive feature and signified from the existence of regular and personal manager that involvement in decision making activities. The result from interactive controls system testing based on indicators: develop challenge and open argument based on data, assumption and action plans (ics2); focus on the main problem (ics5); develop a universal language in an organization (ics7).

Tabel 2. Result Of Structural Models

Description of path			**Standard Estimate**	**S.E.**	**C.R.**	**P**
InS	<---	ICS	0.731	0.04	7.655	***
ES	<---	ICS	0.715	0.05	15.85	***
IL	<---	ES	0.406	0.03	4.655	***
IL	<---	ICS	0.575	0.07	3.547	***
EL	<---	ICS	0.334	0.11	2.573	***
EL	<---	InS	0.884	0.3	5.798	***
EL	<---	ES	0.305	0.06	4.418	***
IL	<---	InS	0.135	0.18	5.736	***
Fit indices of the model						
GFI	:	0.955				
NFI	:	0.981				
CFI	:	0.994				
RMSEA	:	0.042				
Hoelter	:	274				

Notes: *** significant at the level 0.001

Meanwhile indicators develop an open discussion with manager, subordinate and peer in a meeting (ics1); provide general view of organization (ics3) commit to organization (ics4); f; focus on succeeded factor (ics6); will not be used to measure interactive control system construct. These four indicators are the main and the most important indicators to form interactive control system, yet, the four indicators has parametric statistical value below the required value, as a result they removed from the model.

Indicator ics7 describes that management develops universal language in an organization and it becomes the most important factor for the manager, because top managers tries hard to involve themselves personally with their subordinate. It is supported by indicator parametric

value as 5.2., much higher than theoretical median value as 3.5. It means that developing universal language in an organization becomes the most important factor.

By applying universal language in manufacturing industry, management can hold a discussion, argument and assumption to reach company's target. Therefore discussion and argument based on data, assumption and plan actions will be the most important parts. It can be seen from high value of indicator as 0.97. Based on statistic descriptive data, any important statement will by signified by high average value respondent's answer as 5.2. It is still much higher than median theoretical value. It means that respondents in the sample have performed good discussion and argument based on data, assumption and plan actions.

The use of universal language in discussion, assumption and plan actions will drive the management to focus on the main problem faced by the company. Discussion and argument will not be biased from the main problem, because it has been established on data, assumption, and plan actions. These indicators will empirically facilitate strategy formation process both intended and emergent strategy. Empirical result and logical connection of this study proves that interactive control system positively affects strategy process.

Hypothesis 3 states that interactive control system positively affects the internal learning. Testing result from estimation parametric between interactive control system and internal learning shows a positive influence as 0.575 and significant at 0.001. As a result, hypothesis 3 is accepted. Hypothesis 4 states that interactive control system positively affects the external learning. Testing result of H4 proves that interactive control system positively affects the external learning as 0.334 and significant at 0.001. The result of hypothesis 3 and hypothesis 4 are supported by Argyris, (1977) and Simons (1990, 2000) who stated that the interactive control system is a facilitator of learning process in a company.

Hypothesis 5 states that intended strategy positively affects internal learning. Testing result on estimation parametric between intended strategy and internal learning shows a positive association as 0.135 and significant at 0.001, as a result H5 is accepted. Hypothesis 6 states that intended strategy positively affects external learning. Testing result on estimation parametric between intended strategy and external learning shows a positive association as 0.884 and significant at 0.001.

Empirical data shows that the renewal of long term goal (ins8) as an indicator of intended strategy constructs has loading estimate value as 0.58. It means that the renewal of long term goal will be the most important factor when a company performs strategic plan. The result of this study also proves that respondent's answer on renewal of long term goal variable has average value as 5.3 with statement scale 1 – 7. It means that respondent gives a high rate answer on the renewal of long term goal variable.

Besides conducting the renewal of long term goal, a manufacturer must also develop and renew their sort term action. It means an action that refers to action or target which will be attained by 12 months (ins14). It is in line with empirical result of estimate coefficient value as 0.52. It reflects the importance of renewing 12 months short term actions for manufacturing company.

This result proves that when a company adjusts itself with its business environment change, management needs to develop or renew their long term goal. The renewal of short term

action in a company will create serious argument. Therefore we need not only complete and accurate information, but also rapid learning. The result of this study proves that intended strategy will encourage learning to attain manufacturing industry's target.

Hypothesis 7 states hat emergent strategy positively affects internal learning. The result from estimation parametric between emergent strategy and internal learning shows a positive and significant association as 0.406. As a result, H7 is accepted. Hypothesis 8 states that emergent strategy positively affects the external learning. Testing result shows that emergent strategy positively affects the external learning as 0.305 and significant at 0.001.

Both indicators that shaped emergent strategy are known as opportunity searching strategy. This kind of strategy has spontaneous trait with estimation coefficient value as 0.98. It means that every employee in a company has wide opportunity to seek spontaneous strategy. The result is also strengthened by questionnaires' answer from middle manager in manufacturing industry which has average value as 5.1. The average value is much higher than theoretical median value which is only 5.0. The result from empirical data shows that a company provides its employee a large opportunity to explore and perform trial and error which is considered as the suitable strategy for the company.

The result from this study shows that a company will create organizational environment that enables the manager in every level to develop an unstructured strategy. The result value is got by performing estimation coefficient of the unstructured strategy development with value as 0.98. It means that companies will face any unpredicted external threat, so they will develop an unstructured strategy. This strategy derives from daily business activities and it sometimes comes from an unpredicted idea or suggestion from bottom to top position of a company. This statement is supported by empirical data from descriptive analyses of respondent's answer with average value of indicator as > 5.0. The average value is higher than theoretical median value which is only 3.5.

Logical explanation to justify the relationship between emergent strategy and learning process of a company – to anticipate any changes and win business competition – says that management develop and pursue spontaneous opportunity seeking strategy. Spontaneous strategy and idea will simultaneously derive from every level. Top management chooses only strategy with high certainty. When strategic information is accepted by upper position, management will need information based on data, assumption and action plans. Information, data, strategy plans are not based only on one division, but they will also absorb into upper level management. Therefore the best action plan and the most outstanding strategy will come out from strong and intense argument among member in management level of a company. Argument process has compelled every personnel to perform quick learning. The results of testing hypotheses 5, 6, 7 and 8 are supported by Elcock (1996); Mintzberg (1998); Mulcaster (2009); Collis & Montgomery (1995) who stated that strategy formation process will facilitate learning.

CONCLUSION, LIMITATION & FUTURE RESEARCH

The results of hypotheses testing show that interactive control system positively affects strategy process, as intended strategy and emergent strategy. This study is based on quantitative method, so we can get more generalized result. Interactive control system and strategy will

influence internal and external learning. This study shows that control system not only help strategy formation process but also improve the learning process in an organization. This study only uses one-sided relationship between strategy process and interactive control system. The results from qualitative study performed by Kober et al. (2007), shows that there is two-sided relationship between MCS and strategy which will influence each other. As result, the limitation of this study will provide any chance for future quantitative study to consider two-sided relationship between strategy and MCS.

REFERENCES

Abernethy, M.A. & Brownell, P. (1999). Management control systems in research and development organizations: the role of accounting behavior and personnel controls, *Accounting Organizations and Society* 22 (3/4), pp. 233-248.

Abernethy, M.A. & Lillis, A. (1995). The impact of manufacturing flexibility on management control system design, *Accounting Organizations and Society*, 20 **(**4), pp. 241–258.

Anthony, R.N. & Govindarajan, V. (2004). *Management Control Systems*, (11th Ed.) New York, NY: McGraw-Hill/ Irwin.

Argyris, C ., (1977). Double Loop Learning in Organizations, *Harvard Business Review* , Sept – Oct, 59-72 .

Bisbe, J. & Otley, D. (2004). The effects of the interactive use of management control systems on product innovation, *Accounting, Organizations and Society*, vol. 29, no. 8, pp. 70-737.

Bhimani, A. & Langfield-Smith, K. (2007). Structure, formality and the importance of financial and non-financial information in strategy development and implementation, *Management Accounting Research*, (18), pp. 3-31.

Boyd, B.K. & Reuning-Elliot, E. (1998). Research Notes and Communications: A measurement model of strategic planning, *Strategic Management Journal*, vol 19, pp. 182-192.

Byrne, B. M. (2010). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. (2nd ed) Taylor & Francis Group, New York, NY 10016

Collis, David J. & C.A. Montgomery, (1995). Competing on Resources : Strategy in the 1990s, *Harvard Business Review.*

Chenhall, R.H. (2005). Content and process approaches to studying strategy and management control systems, In C.S. Chapman (ed) *Controlling Strategy: Management, Accounting, and Performance Measurement*, Oxford University Press, Oxford.

Dent, J.F. (1990). Strategy, organization and control: some possibilities for accounting research, *Accounting, Organizations and Society*, vol 15, no 1/2, pp. 3-25.

Elcock, Howard. (1996). Strategic Management, in Farnham, D. and S. Horton (eds.),*Managing the New Public Services*, 2nd Edition, New York: Macmillan, p. 56.

Flamholtz, E.G. (1983). Accounting, Budgeting and Control Systems in Their Organizational Context: Theoretical and Empirical Perspectives, *Accounting, Organizations and Society*, (8), pp. 153-174.

Feldman, M.S. & J.G. March (1981). Information in Organizations as Signal and Symbol, *Administrative Science Quarterly* 26, pp.171-86.

Gerwin, D. & Kolodny, H. (1992). *Management of Advanced Manufacturing Technology: Strategy, Organization, and Innovation*: New York.

Ghozali, Imam (2007). *Structural Equation Modeling, Concept and Application*. Diponegoro University Press.

Hall, R.H. (1987). *Organizations: Structures, Processes and Outcomes.* Dow Jones-Irwin: Homewood, IL.

Hoelter, J. W. (1983). The analysis of covariance structures: Goodness-of-fit indices, *Sociological Methods & Research*, *11*, 325–344.

Henri, J-F. (2006). Management control systems and strategy: A resource-based perspective, *Accounting, Organizations and Society*, vol. 31, no. 6, pp. 529-558.

Joreskog, K. G. (1993). Testing structural equation models. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 294–316). Newbury Park, CA: Sage.

Kober, R., Ng, J., & Paul, B. (2003). Change in strategy and SPM: A match over time?, *Advances in Accounting*, (20), pp. 199-232.

Kober, R, Ng, J., & Paul, B.J (2007). The interrelationship between management control mechanisms and strategy, *Management Accounting Research*, (18), pp. 425-452.

Langfield-Smith, K. (1997). Management Control Systems and Stfrategy: A critical review, *Accounting, Organizations and Society*, vol. 22 (2), pp. 207-232.

Langfield-Smith, K. (2007). A rivew of quantitative research in management control system and strategy, in *Handbook of Management Accounting Research*: Vol.2. eds Christopher S Chapman, Anthony G Hopwood and Michael D Shields, Elsevier, Oxford UK, pp 753-783

Levitt, Barbara & March, James G. (1988). Organization Learning in: Annual Review of Sociology, 14: 319-340

Madhok, A. & Tallman, S. B. (1998). Resource, transaction and rents: managing value through interfirm collaborative relationships, *Organization Science*, 9: 326-339.

Malina, M. A., & Selto, F. H. (2004). Choice and change of measures in performance measurement models, *Management Accounting Research*, Volume 15, Issue 4, pages 441-46.

Merchant, K.A. & Otley, D.T. (2006). A review of the literature on control and accountability, In Chapman, C., Hopwood, A. & Shield, M. (Eds.), *The handbook of management accounting research*, Elsevier Press.

Miles, R.W. & Snow, C.C. (1978). *Organizational strategy, structure and process*, McGraw-Hill, New York.

Mintzberg, H. (1973). *The nature of managerial work*, Prentice-Hall, London.

Mintzberg, H. (1978). Patterns in Strategy Formation, *Management Science*, vol. 24, no. 9, pp. 934-948.

Mintzberg, H. (1987). Crafting Strategy, *Harvard Business Review*, July/August, pp. 66-75

Mintzberg, H. (1990). The fall and rise of strategic planning, *Harvard Business Review*, January/February, pp. 107-114.

Mintzberg, H. (1994). *The Rise and Fall of Strategic Planning*, Prentice Hall, Hemel Hempstead.Mintzberg, H. (1998). Five Ps for Strategy, In: Mintzberg, H., J.B. Quinn and S. Ghoshal (Eds.): The Strategy Process, revised European Ed., Prentice-Hall, New Jersey.

Mintzberg, H. & McHugh, A. (1985). Strategy formulation in an adhocracy, *Administrative Science Quarterly*, v. 30, pp. 160-197.

Mintzberg, H. & Waters, J.A. (1985). Of strategies: deliberate and emergent, *Strategic Management Journal*, vol. 6 (7), pp. 257-272.

Mulcaster, W.R. (2009). Three Strategic Frameworks, *Business Strategy Series*, Vol 10, No1, pp. 68 – 75.

Nelson, Richard R. & Sidney G. Winter. (1982). *An Evolutionary Theory of Economic Change*. Cambridge, Massachusetts: The Belknap Press of Harvard University Press.

Ouchi, W.G. (1979). A conceptual framework for the design of organisational control mechanisms, *Management Science*, 25, 9, pp. 833-849.

Roberts, J. (1990). Strategy and Accounting in a U.K. conglomerate, *Accounting, Organizations and Society*, vol. 15, (1/2), pp. 107-125.

Senge, Peter. (1990). *The Fifth Discipline*, Doubleday, New York,

Schroeder, R.G., Bates, KA., & Junttila, M.A. (2002). A Resource Based View Of Manufacturing Strategy And The Relationship to Manufacturing Performance. *Strategic Management Journal*, Vol.23, pp.105-11.

Simons, R. (1987). Accounting control systems and business strategy: An empirical analysis**,** *Accounting, Organizations and Society*, vol. 12, (4), pp. 357-374.

Simons, R. (1990). The role of management control systems in creating competitive advantage: new perspectives, *Accounting, Organizations and Society*, vol. 15, no. 1/2, pp. 127-143.

Simons, R. (1994). How new top managers use control systems as levers of strategic renewal. *Strategic Management Journal*, vol. 15, pp. 169-189.

Simons, R. (1995). *Levers of control*, Harvard University Press, Boston.

Simons, R. (2000). *Performance Measurement and Control Systems for Implementing Strategy*, Prentice-Hall, Upper Saddle River. NJ.

St. John, C & J. S. Harrison. (1999), Manufaacturing-basedness, synergy and coordination. *Strategic Management Journal* 20(2): 129-145.

HOW HARMFUL IS PLAYING POLITICS TO THE INNOVATION PROCESS AND ORGANIZATIONAL OUTCOMES?

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ABSTRACT

The main objective of this paper is to identify the influence, if any, of organizational politics on the innovation process and the performance of Mexican SME's. To this end, we designed an empirical study and applied a survey in 134 companies in the shoemaking industry.

As we expected, the results of our empirical research indicated an important relationship between innovation and organizational outcomes. The most important finding is that organizational politics did not affect organizational results; a surprising and counterintuitive fact as many authors and practitioners evaluate negatively the practice of politics inside businesses.

Keywords: Innovation Models; Organizational Politics; Organizational Performance

Purpose: The aim of this paper is to identify the influence of innovation on organizational performance. A moderating variable is the effect of organizational politics measured in Small and Medium Enterprises (SME's) involved in the footwear manufacturing industry from the state of Jalisco, Mexico.

Design/methodology/approach: We designed an empirical study and developed a questionnaire which was implemented in a representative sample of 134 companies and 421 subjects. Our methodology also included a case study and interviews. We applied the technique of linear regression analysis (OLS) and Pearson Correlation Coefficients to test our hypotheses.

Research limitations/implications: The results would be more competitive if different countries and different industries had been compared. This research is one more step in the often-neglected field of innovation and organizational politics.

Practical implications: This study provides interesting insights for managers into how to take advantage of a common behavior: the self-organization of employees with a specific goal in mind. In-company politics should not be seen as a dysfunctional or aberrant behavior but rather as a harmless factor in organizational life. Innovation should also h be included as a "must think about" in all companies involved in this field.

1. INTRODUCTION

Creativity is an individual process. It occurs prior to the innovation phenomenon defined as a "group process" and requires certain skills that both individuals, and groups possess. (McLean, 2005). However, it is not possible to talk about innovation if there is no a previous creative process marking the beginning of the process; one which identifies relevant problems and opportunities, obtains information, generates new ideas and explores the relevance of these ideas (Amabile,

1998). Creativity, and therefore innovation, will be possible if diversity exists in the working group and the exchange of ideas becomes common practice among people with different experiences and different backgrounds (Kanter, 1983). Given the above, attitudes such as hostility, arrogance, autonomy, independence and introversion have no place in an organization that requires innovation and creativity at work (Amabile, 1998).

It has been more than half a century since the debate about definitions of innovation began, particularly the way in which it should be evaluated and measured. One of the first authors involved in studying this subject-area was Schumpeter (1934), who made very specific distinctions about what invention, innovation, and the diffusion of such innovation meant. In this regard it is important to comment that the "Schumpeter" approach is one of the most analyzed approaches in the empirical scope, and, as will be mentioned later, this interpretation is based on two factors (size of the company and market power) that frequently lead to a technological innovation (Alaez, 2001).

Some researchers treat innovation typically as a fully-inclusive term, even when they are referring to different events or processes. Additionally, in some research, innovation is described in one dimensional term as referring to a new idea, product or process interchangeably. In some literature innovation is described as a process of innovation (Cooper, 1998).

Robbins (1998) argues that innovation is a special kind of change because thinking of innovation “changes the way we think”. While change is defined as the realization of different things, innovation refers to the application of a new idea to generate better products, processes or services. For this reason, innovation has nothing to do necessarily with the increase in budget for machinery or the hiring of specialized personnel, but with other issues within the organizational sphere.

Another, wider definition of innovation specifies that an idea used for the first time by a company or companies, with a common objective, is undoubtedly an innovation (Kimberly and Evanisko, 1981). A different group of researchers believe that innovation is an idea, practice or object that the company or an individual perceives as new (Damanpour and Evan, 1984; Damanpour, 1991). In terms of these two approaches therefore virtually any event is considered as innovation, everything is based on the perception of the innovator, and what varies is the time taken to adopt such innovation.

Innovation has been also defined as "the adoption of ideas that are new to the organization that acquires them" (Downs and Mohr, 1976; Rogers, 1983). However, the generation of new ideas or the adoption of these ideas is only the beginning (Afuah, 1999). To transform an invention into an innovation it is necessary for the idea to become something that customers really want. Having the idea therefore is only the beginning. It is also necessary to find how to process, improve and promote it until you have a service or product: this is the real challenge.

It has also been stated that there is a substantial difference between what is a technical innovation and an administrative innovation. (Afuah, 1991). While technical innovation is limited exclusively to products or services, an administrative innovation is confined to part of the organizational structure and processes of which it is composed. An administrative innovation, being much broader in its application, could affect or not or even generate a technical innovation.

On the other hand, a technical innovation does not necessarily require an administrative innovation to be generated.

A very recent definition of innovation provided by Boer et al. (2001) indicates that a product innovation is a cross functional and continuous process that involves and integrates a huge range of different skills both inside and outside organizational boundaries. To dominate the exchange and transfer of knowledge within this process requires new administrative skills. However, the effort is worthwhile because it can generate a very powerful and competitive weapon.

Van de Ven et al (2001) defined innovation more as a journey than a process, a journey that can be planned, understood, and retaken when any of the study variables change and which could also be suspended if required by the system under scrutiny. This trip was defined as "new ideas whose development and application are committed towards results desired by people who set up transactions with other parties in the midst of changing institutional and organizational contexts" (Van de Ven et al., 2001: 8).

The definition of Van de Ven (2001) refers to a process that involves several elements such as ideas, outcomes, relationships and different contexts. However, there are other definitions that may argue for the inclusion of other elements different from those mentioned by this author. This definition is one of the most comprehensive however since it encompasses several elements, although not necessarily technological ones and not involving issues of diffusion or market exclusively. This "journey" called innovation has more to do with change and adaptation than with rigid processes.

2. LITERATURE REVIEW

2.1 Theoretical contributions on Innovation Models

According to the literature, we have distinguished two different models of innovation: the static and the dynamic.

Static models

An innovation can be classified according to the impact it has on a company (Afuah, 1999). Therefore, an innovation can be classified according to the impact it has on the capabilities of an organization, i.e., you can measure the impact of the innovation based on the effect that this innovation had on the competencies of the company. This way of classifying innovations is called "organizational vision", and it separates innovation into radical and incremental innovations. According to this classification, it is said that an innovation is considered radical when the technological know-how required to exploit it is completely different from current know-how: the latter becoming obsolete (Green, et al 1995; Zhao, 2005).

Tushman and Anderson (1986) concluded that radical innovations are "destructive" skills since they force a company to learn things quickly and adapt to a new way of working, without investing time and money. Given those circumstances, the company loses its “competitiveness” on something that was already in its domain and has to start from scratch again. Tushman and

Anderson (1986) referred to what ice making companies had to do and learn in order to switch to refrigerator manufacture For example, it was necessary to learn about thermodynamics, electric motors and cooling substances as well as the design and manufacture of various types of materials involved in refrigerator construction: this therefore was regarded as a radical innovation.

In contrast, the same authors argue that an incremental innovation, in contrast to a radical one, enhances the power of a company. This type of innovation is based on the premise that the existing knowledge-base will be utilized in the manufacture of a new product offering (Ibid.). An example of incremental innovation could be when a company makes a product with certain characteristics and improved efficiency. In terms of electronic products, this might be a new mobile phone which is much smaller and has more features in terms of size/functionality ratio compared to when these phones first appeared in the 80´s.

Innovation has also been classified from both economic and competitiveness standpoints. In this sense, classified as radical or drastic, innovations occur "when a product that is superior (lower cost, better attributes or new attributes) is generated and the existing products become almost automatically obsolete or uncompetitive" (Afuah, 1999:21). Non drastic or incremental innovations are characterized by existing products remaining competitive even after the introduction of a new product, for example, low-calorie soft drinks.

If an innovation is radical in the organizational sense, two fundamental problems must be overcome before it can be considered useful. First, change becomes a destroyer of competency and people do not have the capabilities to exploit the innovation, and second, it is likely that the existing competencies of the company are not only useless but become a real obstacle to the introduction and development of the innovation itself (Dewar and Dutton, 1986; Ettlie, Bridges and O'Keefe, 1984).

Even though new firms are more likely to experience good results with radical innovation, and also are more likely to succeed when the innovation is incremental, this does not happen 100% of the time (Afuah, 1999). There is no law stating that all those companies already present in the market cannot make dramatic improvements, not only to a single or specific products but to the business model or company itself.

SYNTHESIS OF STATIC MODELS AND THEIR CONTRIBUTION		
Model	**Key characteristics**	**Contribution**
Incremental-radical dychotomy	Defines innovation as incremental if current products remain competitive and radical if they become obsolete. Innovation is also defined as incremental if the competencies required to exploit it exist and radical if the required competencies are different and new.	The type of innovation is determined by the type of company making it. Companies already involved in an industry are more likely to implement an incremental innovation, while new firms are more likely to exploit a radical innovation.
Abernathy-Clark	Separates technology from market knowledge. Stresses the importance of market skills	Explains how today´s companies can use radical technological innovations to enhance performance.
Henderson-Clark	Separates technological knowledge into "architecture" and "components". Defines innovation as incremental if it intensifies both these elements	Explains why the components fail in what appear to be incremental innovations but are actually architectural innovations.
Value-added innovation chain	Extends the emphasis to the entire added-value innovation-chain to include suppliers, customers and complementary innovators. The ecosystemic-competence of a company is also important.	Explains how existing companies may fail when attempting to implement incremental innovations, although they can succeed when implementing radical innovations.
Strategic Leadership	Explores the role of top-level management (CEO) in the adoption or non-adoption of an innovation.	Explains why some more established companies are the first to embrace radical innovations.
Amount and quality of new knowledge	Not just the content of the new knowledge itself, but also what the new knowledge represents and the relationship between this knowledge and the development of the product or service.	Explains the reason why superior technologies are not always successful.
Appropriability and complementary assets (Teece)	Exploiting an innovation requires more e than just technological skills: the innovation appropriability regime and complementary assets are also important.	Explains why inventors are not always those who benefit from an innovation.

Source: Created by the authors based on Afuah (1999: 43)

Dynamic models

Utterback-Abernathy dynamic innovation model

These authors traced the route that a technological innovation follows, beginning with the very dynamic functional processes and ending with the following three phases: the fluid, the transitional, and the specific. The initial fluid phase is characterized by great uncertainty (both market and technological). As a result of the flow of new technology the firm decides to invest in the new product. In addition, there is always the fear that failure to do so could result in the loss of a significant opportunity. At this stage the innovation process itself has little relevance: what really matters is the product characteristics.

Utterback and Abernathy (1978) called the second stage the 'transition' phase. During this stage learning by producers about consumer needs and certain standardization is generated: this is what the authors called "dominant design", where the degree of uncertainty dramatically decreases and experimentation is primarily limited to a base product. Almost all competitors share the same design and a certain loyalty is generated by consumers for a particular manufacturer due to the use

of certain materials. At this stage, the rate of product innovation decreases, and the emphasis is placed on the development of the process, with competition being based on product differentiation.

In the third phase (the 'specific' phase), there is significant proliferation of products created which are similar to the dominant design. There is an increase in specialization and an improvement of processes for the same product at this stage, and there is also a desire to buy from more specialized niches but at a lower cost. This phase is also characterized by the small differences between products in the field. The phases described in the Utterback and Abernathy (1978) model will be repeated if a new competitor enters the market with a new change or improvement to the product or process, forcing the industry to improve and restart the cycle. Usually there is more than one company trying to access the market: these companies force those already established to modify their competencies. In addition, established companies are continually striving to innovate and improve their processes and accelerate their learning about new innovations in the field.

The Christensen, Anthony and Roth Company's evaluation Model

Christensen, Anthony and Roth (2004) divided the study of innovation into three important areas based on the 3 types of innovation that can arise inside of a given company:

1. **Disruptive innovation theory:** this theory states that all new organizations can use technology, such as phones, cameras or copy machines simply and cheaply. They also state that this type of innovation can be bought and slightly modified by the company who buys it for its own benefit.
2. **Value chain evolution theory:** this theory focuses on the accurate organizational design necessary for a company to compete successfully and succeed, by adding value to each part of the service process (internal or external).
3. **Processes, resources and values theory:** this theory examines the strengths and weaknesses of a company and these are related to the resources that the company owns (what the company has), its processes (how the company works), and the company's values (what the company wants to do through the expertise of its employees). All of the aforementioned are related to the realization of competencies and the uniqueness of these competencies to a specific company.

The Swan, Newell, Scarbrough and Hislop model

These authors examine the difference between the cognitive model and the community model. They state that the essence of the cognitive model is based on a fact analysis located in the human memory and mostly used for data and fact storage. Due to this, company management should be focused on codifying and saving knowledge. The cognitive model on the other hand examines objective and analytic technology.

The community model presents innovation as a social process carried out by individuals and based on their experiences and background. Knowledge can be transferred through social processes using networks which include occupational groups and teams.

The main task of upper management is to support knowledge-transfer through trust and collaboration by means of efficient networks inside the organization (Swan, Newell, Scarbrough and Hislop, 1999).

In addition to the contribution of a Swan et al (1999) relating to the previously-discussed "human factor", we can also understand that everybody involved in the process of innovation-adoption can play one or more roles (Afuah, 1999). The roles we are referring to are: idea-generators, gatekeepers, sponsors, champions and project-managers among others. These authors also argue that if any of the roles are skipped the innovation and its process could be seriously compromised.

In order to give a brief conclusion about innovation and show how it connects to the subject that follows, we must say that innovation in any organization cannot take place without a process being followed in which all those involved are aware of the role that each individual plays in the process itself.

The process an innovation has to go through before it can be implemented will undoubtedly give rise to various "issues". These 'issues' may well be considered problems, and many authors have identified them as detractors in human relationships. In organizational politics 'issues' can be regarded as either supportive or problematic, but they cannot be ignored.

2.2 Theoretical contributions on Organizational Politics

As we stated in a previous document, we understand politics *as the accumulation and the exercise of power to reconcile different interests;* that is why we believe that a company, no matter its size, is involved in politics every day (Ramirez, Baños and Orozco, 2014).

Astley and Sachdeva (1984) define power as the capacity of social actors, (such as members of an organization) to achieve objectives. Power has also been characterized as a social construct that is perceptual in nature (Fiol, O´Connor and Aguinis, 2001). In this same vein, Madison et al. (1980) defined company politics as the process or administration of influence, while power has been characterized as a reserve of potential influence. Power is not the same as formal authority, since this is the preserve of the owner of the company. Power is derived from possession of resources: of these the most important are information and knowledge, both for acquiring other resources and solving problems.

Organizational power is a function of company structure and is inherent to the position of the individual in such a structure; power provides access to people, information and financial resources, among other things. For this reason, those who have power currently will seek to retain it, reinforcing the existing structure of the organization (Astley and Sachdeva, 1984). That is why some individuals within the company feel that it's worth the effort to get involved with organizational politics in order to preserve or to acquire power.

An individual or a subunit of the organization will increase their power to the extent where they are capable of dealing with situations of high uncertainty. The knowledge of how to solve a problem translates into power. However, this happens under certain circumstances; the individual

or the subunit must have some kind of monopoly on the information required to solve problems and not be easily replaceable. In this way power is distributed unevenly among the members of the company; the control of the organization lies within the subunit responsible for addressing the most problematic areas.

Political activities in a company should be delineated so we can talk about the organizational politics that we will discuss in the empirical study. In respect of this, within a company, what kind of activities can be considered as politics? In the definition that we propose, built from the contributions of different authors (Butcher and Clarke, 2003; Connor and Morrison, 2001; Drory, 1993; Kacmar and Carlson, 1997), the term *organizational politics* is used to refer to the *conscious behavior that individuals, with the strategic intentionality of obtaining or improving positions of privilege within the group, use to reconcile different and even conflicting interests and objectives* (Ramirez, Baños and Orozco, 2014).

2.3 The relationship between Organizational politics and innovation

Political activities in a company should be delineated in order to allow for discussion, and this will be reviewed in the corresponding empirical study presented in this paper. In this sense, within a company, what kind of activities can be considered as politics? The first position assumes that political activity is not inherent to all organizational interactions, but represents a continuum between fully rational and politically-biased organizational decision processes (WeissenbergerEibl and Teufel, 2011). According to this view, the political nature of decisions is contingent on specific contextual preconditions. In the models of Pfeffer (1981) and Piercy (1986), the degree of conflict and therefore the political "degree" of a resource allocation decision depends upon structurally determined factors, such as; the heterogeneity of interests, the interdependency between actors and the scarcity of resources which result from mutual task dependence. This mutual task dependence goes along with the organizational differentiation that is necessary to cope with environmental complexity (Lawrence and Lorsch, 1967).

A second and more radical strand assumes that political activity is inherent to all interactions and therefore is a constitutive element of organizations. Consequently, by referring to a well known metaphor, Crozier and Friedberg (1979) describe organizations as the "entity of interconnected political games". In this view, the question of to what degree decisions are political becomes obsolete.

Some consider organizations as only "rational arguments" for the ex-post-legitimization of individual or group preferences (WeissenbergerEibl and Teufel, 2011).

As a result, organizational decision making is less determined by structures than by the nature of political processes. It is assumed that political games are bound to specific situations and cannot be subject to generalization, and the methodological focus therefore is mostly qualitative (WeissenbergerEibl and Teufel, 2011).

Organizational politics have two fundamental characteristics. The first of these is influence on decisions taken at the strategic level (Eisenhardt and Bourgeois, 1988) that also affects the entire group, as well as in the exercise of power. This is because the group determines the activities necessary to win, hold, or resist power (Poon, 2003). The second fundamental characteristic of organizational politics is political behavior, which is used to bargain for or perpetuate certain

interests: indeed some managers view this behavior as ethical and necessary. Nevertheless, political action as inappropriate distribution of organizational outcomes leads to jealousy and resentment among employees, who will consequently use political action to manipulate their work.

Organizational politics in the company covers behavior which occur informally within an organization and includes intentional acts of influence designed to protect the career of the individual when there are different conflicting courses of action in the enterprise (Connor and Morrison, 2001; Drory, 1993). Organizational politics has also been related to the social influence wielded by those who can provide rewards that help to promote or protect the personal interests of the individual (Kacmar and Carlson, 1997).

The perception of organizational politics, as defined above, occurs in all organizations and can be understood as a political entity. The perception of organizational politics does not depend on the type of organizational structure or organizational system because it presents both a rational bureaucratic system and an authoritarian centralized scheme. The perception of organizational politics will vary and will have different effects depending on the type of organization. However, it is inevitable that it will eventually appear in the decision making process, as has been demonstrated (Eisenhardt and Bourgeois, 1988).

The fact that political issues surrounding the (re) allocation of resources are especially relevant in processes of innovation was also recognized by Niccolo Macciavelli cited after Rogers and Shoemaker, 1971, p. 174:

> *The innovator makes enemies of all those who prospered under the old order and only lukewarm support is forthcoming from those who would prosper under the new [...] because men are generally incredulous.*

Although not explicitly referring to organizational politics, the potentially dysfunctional effects of interdepartmental conflict or power asymmetries on the performance of a firm's innovation system have already been discussed by Lawrence and Lorsch (1967) Cooper (1985), Souder (1988), Rotemberg and Saloner (1995), Kahn (1996, 2005), Tjosvold and Poon (1998) and Kohn (2006). By focusing on the early phase of NPD, Kohn (2006) argues that it is fruitful to have a certain degree of interdepartmental conflict, while at the same time recommending that management takes measures to enable an understanding of each other's functional perspectives (Kohn, 2006).

This is important because if there is conflict in a specific department regarding the selection of those who will be involved on the innovation process itself, feelings of envy may be generated. This could result in a significant slowdown of the innovation process, and instead of widening the scope for contributions and improving efficiency; the organization will face significant difficulty in gathering participants and incorporating them into the event.

When we talk about inviting selected people to be part of an innovation process, we must understand the certainty of conflict within the organization due to the fact that it is not possible to include everybody. In their analysis, Burns and Stalker (1961) use the concept of the firm as a political system whose members compete for overall resources and put their self- interest before the company's functional wellbeing. In this sense, far from being an acceptable level of competition demonstrated for the benefit of one's peers this element of conflict is unfortunately simply human nature.

Similarly, Crozier and Friedberg (1979) and supported by Mintzberg (2002) consider the organization as a political arena within which political games take place between members which can take very different forms, as illustrated in Buchanan and Badham (2008). It follows therefore that organizations cannot be viewed as monolithic and homogeneous entities with shared goals among their members (Mintzberg, 1983).

3. METHODOLOGY AND HYPOTHESIS

3.1. Sample

For the purposes of the present study 117 companies were taken as valid, this being the number provided by the Mexican Business Information System (2003). In addition, we added 17 more to bring us in line with the number of companies given by the Footwear Manufacturers Chamber of Commerce. The study used a snowball strategy or multiplier (Sincich, 1996) and encompassed a total of 134 companies; those that were located using the complete list provided by the Footwear Manufacturers Chamber of Commerce, those that located through the Yellow Pages and those located through references provided by employers.). In this way, we reached enterprises and workshops that did not appear in any type of record. We interviewed 421 employees at different organizational levels in the 134 companies we addressed: the results of this study are based on the 421 answers we received.

3.2 Design of instrument to collect information

Despite the general belief that organizational politics can be studied in a company in order to analyze organizational support, it has been demonstrated using multiple regression analysis that organizational politics represents a useful construct and one worthy of separate study (Randall et al., 1999). Our study also used multiple regression analysis (OLS) to verify the importance of each variable and the reliability of their respective correlations.

The particular variables described and analyzed in this paper are: INNTOT (cumulative innovation variable on the database), RGRALES (cumulative general results variable on the database) and POPs (cumulative perception of the organizational politics variable on the database). We will describe these variables briefly prior to stating the hypothesis of the study.

The INNTOT variable is composed of the average obtained from the 421 responses of the study and the following dimensions: willingness to experiment, willingness to take risks, innovator fame and timeframe necessary for an innovation to evolve. Each one of these variables has at least 2 items that were answered by the respondents.

Yeung et al., (2000) define innovation as the willingness of the organization to experiment and take risks. These authors turned this concept into a tangible and measurable variable by dividing it into four dimensions: willingness to experience, willingness to take risks, innovative fame and timeframe for innovation cycle. We will define these components as follows:

1. **Willingness to experiment:** the degree of willingness perceived by members of the company to perform various tests on the products and processes of the

organization. (Munton and West, 1995; Mumford, 2000; Rainey, 1999; Hurley and Hult, 1998).

2. **Willingness to take risks:** is the degree to which the company is prepared, calculating the costs and the benefits, to make mistakes and to learn from them without penalty to the performers. (Motions and Saks, 1996; Afuah, 1999; O´Reilly, 1989).
3. **Innovative fame:** the degree to which the company is perceived by those who work within it, as a company that takes the lead before its competitors in the launching of new products or designs.(West, 1987; Capon, et al., 1992; Avlonitis, et al, 1994; Kano, 1984; Lyon, et al., 2000; Cavender, 2007).
4. **Timeframe for innovation cycle:** the degree to which the company personnel perceive that the company reacts (reaction time) to the requests of their clients and the time that it takes to create and bring to market new products. (Morrison, 1997; Subramanian and Nilakanta, 1996; North and Smallbone, 2000).

The RGRALES variable is composed of the average obtained from the 421 responses covering the ten items used in the study. In contrast with the INNTOT variable the RGRALES does not have any dimensions; it was built upon the ten items developed for this purpose. We will refer to this variable as the "performance" of the company since General Results (RGRALES) reflects the perception of the employees towards company outcomes.

In respect of general results (company performance), in several investigations the interviewees were asked directly about the volume of sales or net profits of the company (Belausteguigoitia, 2000).

However, there might be some bias in a question asked so directly, so we followed the example of Yeung et al. (2000), and adapted and modified the questions. We wanted to measure on one hand, the perceptions of managers and employees of both the financial and general results (performance) of the company compared to its main competitors. Yeung et al (2000) included the following items: IT and hardware, relationships with customers; relationships with suppliers; relationships with the government, staff turnover, marketing and sales, production capacity, volume of sales, profits, and overall financial result. In addition, we asked about financial results specifically, but this time in relation to personal: Yeung et al. (2000) included: sales volume; profits and financial results in general.

We used ten items to ask about general results specifically:

GENERAL RESULTS ITEMS
RG1. In comparison with our principal competitors our Company has worse IT software and hardware.
RG2. In the last year, our company has developed and maintained better relationships with our customers than our principal competitors.
RG3. The company has developed and maintained better relationships with our suppliers than our principal competitors.
RG4. In the last year, our company has developed and maintained better relationships with the government than our principal competitors.
RG5. Our company has a smaller staff turnover rate than our principal competitors.
RG6. In the last year, our company has developed better sales strategies than our principal competitors.
RG7. In relation to our principal competitors, our company has greater production capacity.
RG8. Our company has higher sales volume than our principal competitors.
RG9. Our company has higher profits than our principal competitors.
RG10. In general, our company has better financial results than our principal competitors.

Finally, the Perception of Organizational Politics (POPs) is a variable composed of the average obtained from the 421 responses of the study. The dimensions used to reach this cumulative result were as follows: General Political Conduct, Political Behavior of Permanency and Payments and Promotions. Each one of the components of this variable has at least two items answered by all the respondents.

3.3 HYPOTHESIS

H1= the perceived degree of innovation will positively affect the general results of the company

H2 = the perceived degree of innovation is influenced by the perceived organizational politics and this relationship will affect the general results of the company.

4. FINDINGS

Table 1: Pearson correlation coefficients for Hypothesis 1 and 2
Correlations

		INVEX	INVRI	INFAM	INCIC	RGRALES	POPs
INVEX	Pearson Coefficients	1					
	Sig. (2-tailed)						
	N	421					
INVRI	Pearson Coefficients	.596**	1				
	Sig. (bilateral)	.000					
	N	421	421				
INFAM	Pearson Coefficients	.098*	.126**	1			
	Sig. (2-tailed)	.044	.010				
	N	421	421	421			
INCIC	Pearson Coefficients	.093	-.011	.045	1		
	Sig. (2-tailed)	.056	.819	.359			
	N	421	421	421	421		
RGRALES	Pearson Coefficients	.529**	.450**	.408**	.098*	1	
	Sig. (2-tailed)	.000	.000	.000	.045		
	N	421	421	421	421	421	
POPs	Pearson Coefficient	.104*	.047	.072	-.066	.188**	1
	Sig. (2-tailed)	.032	.337	.143	.180	.000	
	N	421	421	421	421	421	421

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 2: OLS regression model to remove INCIC dimension
Coefficients[a]

Model		Unstandardized coefficients		Normalized Coefficients	t	Sig.
		B	Type error	Beta		
1	(Constant)	1.000	.100		10.000	.000
	INVEX	.367	.020	.580	18.031	.000
	INVRI	.197	.022	.287	8.922	.000
	INFAM	.185	.020	.240	9.273	.000
	INCIC	.025	.014	.046	1.783	.075

a. Dependent variable RGRALES

Table 3: OLS regression Model for Hypothesis 1
Coefficient[a]

Model		Unstandardized coefficients		Normalized coefficients	t	Sig.
		B	Type error	Beta		
1	(Constant)	.850	.089		9.550	.000
	INNTOT	.795	.026	.835	31.048	.000

a. Dependent variable RGRALES

As we observed on the Pearson correlation coefficients, (Table 1) the innovation dimension called "INCIC" (meaning "period of time needed to produce an innovation") obtained the lowest correlation coefficient in its relationship with general results and also with the POPs dimensions. In table 2 we can observe that the INCIC dimension was the only one that obtained a beta of .025 but a significance level of .075.

We also decided to remove this INCIC dimension because the results obtained for this variable at the end of the study were not related to the perceived level of innovation for the subjects interviewed, who were employed in the footwear industry. We will examine this in depth in the discussion and conclusion section.

In order to confirm the first hypothesis stated above, we used an Ordinary Least Squares (OLS) model. Table 1 shows the results for the relationship existing between INTOT and the general results of the company.

The R^2 of the model is 0.697, so this can be considered a satisfactory explanation and a confirmation of hypothesis 1. As we can see, the analysis obtained a Beta of .795 which is considered a confirmatory result and supports hypothesis 1.

Table 4: OLS regression Model for Hypothesis 2
Coefficients[a]

Model		Unstandardized Coefficients		Normalized Coefficients		
		B	Type error	Beta	t	Sig.
1	(Constant)	.656	.102		6.420	.000
	INNTOT	.785	.025	.825	30.965	.000
	POPs	.072	.019	.099	3.713	.000

a. Dependent variable RGRALES

The R^2 of the model improves to 0.707. As pointed out in the second table, the beta was modified to a value of .785 which also confirms hypothesis also No. 2. Even If the beta value decreased, as it was positive hypothesis 2 was confirmed.

The influence of POPs on the General Results of the company is not significant according to the numbers obtained from this OLS analysis.

Table 5. Pearson Correlation coefficients
Correlations

		RGRALES	POPs	INNTOT
RGRALES	Pearson Coefficients	1		
	Sig. (2-tailed)			
	N	421		
POPs	Pearson Coefficients	.188**	1	
	Sig. (2-tailed)	.000		
	N	421	421	
INNTOT	Pearson Coefficients	.641**	.103*	1
	Sig. (2-tailed)	.000	.034	
	N	421	421	421

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the .05 level (2-tailed)

5. DISCUSSION

As has been seen, the studies that relate innovation to company results are widely known and most of them confirm the type of positive relationship that was found in the results. However,

and as the regression model itself makes clear, there are aspects that can be explored in order to explain this positive effect convincingly.

Throughout the investigation, we found that the way in which innovation is perceived by employees is fundamentally linked to company performance. We found that employees perceive that the elements allowing their organization to have innovative competence are also those elements more likely to support workplace experimentation and be motivational. These are also organizations in which superiors encourage employees to innovate and not worry significantly over the possibility of failure. This attitude of allowing employees freedom to experiment and to make mistakes without being punished, engenders positive feelings in the workers about their employer.

As previously outlined, we decided to remove the INCIC innovation dimension because of two factors: the relative insignificance of the results obtained from the OLS analysis (significance level was .075) and the fact that the results were affected negatively because of this (timeframe for an innovation cycle).

The timeframe for an innovation cycle (INCIC), as we discovered, is not something explicitly recognized by employees, unlike the innovative fame for example. This is because the timeframe for an innovation cycle is different for each company depending on circumstances such as average age of employees, gender, and, most importantly, the size and age of the company. For instance, if the company is young, the timeframe of the innovation cycle usually is shorter than in an older company. This phenomenon occurs because the owners tend to be younger and to hire younger employees who may be more flexible than more experienced workers.

It is important at this stage to revise the hypothesis to confirm that, in essence, innovation has a positive influence since, as was stated above, this variable alone can generate a different perception amongst employees about the overall results of the company.

In addition to the above, innovation in a company is essential for its future survival. Employees of SMEs in the footwear sector in the State of Jalisco agree that the ability to innovate is crucial to the pursuit of excellence in an environment as competitive as this sector.

Mexican SMEs and the employees who work in them must feel part of a stable organizational environment in order to maximize performance at work. For this reason the recognition and development of new systems of support for ideas is very important for these employees in order to provide as a basis for the development of a competitive advantage based on innovation (Zhao, 2005).

However, at this point in time no studies have been conducted investigating the influence of POPs on innovation and company results. Determining this moderating effect through the verification of hypothesis 2 opens a new field of possibilities for both academics and managers spheres. Even though the result of the moderating- variable POPs was a modest Beta of .072, it is still necessary for this variable to be studied in further investigations.

It is clear that one of the ways in which this research could be improved is through the design of a more complex interaction model permitting the discovery of subtleties that the analytical technique employed here does not allow. However, we consider that the exploratory purpose of this study opens the door to future research that confirms the nature of the positive influence of POPs on both innovation and general company outcomes.

6. CONCLUSIONS

As we observed in the results and discussion, innovation has a positive relationship on the performance (RGRALES) of an organization. In our study POPs did not affect the results in the proposed model and therefore did not help to improve the model in any way. We can conclude that in fact it is not harmful to play politics, at least in Mexican SMEs.

It can be seen that the companies we analyzed have some processes designed to develop innovation (new products and processes) and that employees are aware of them. Also the results showed that POPs is not a negative component when referring to improving the results of a given company, even if it didn´t help to improve the model on the OLS analysis.

What encourages us to suggest a re-evaluation of whether POPs should be included in all the dimensions of innovation and its possible relationship with a company´s general results is the Pearson correlation coefficient obtained between these two variables (.188**), and also the .103* obtained between POPs and innovation. Both results will give us the opportunity in future research to explore the relationship between each one of the dimensions of POPs and the 3 dimensions of innovation and any relationship with the general results of the company.

Even if there is a Perception of Organizational Politics within the organization, we could observe that in contrast to other studies carried out by different authors, Mexican companies can react positively to politics in the labor context, but this reaction doesn´t affect the general performance of a company.

We must consider politics not only as a negative factor in the organization but as an opportunity to improve performance and organizational outcomes. The Perception of Organizational Politics (POPs) is a variable that should be revised in further investigation using another Mexican industry for study. Results may vary if a sector as complex as the maquiladora industry is studied, as we know this sector has a significant gender in balance. We consider that gender could be a factor influencing results if the same survey is used to collect information on the maquiladora industry.

We suggest that components for inclusion in further investigation that may broaden the scope of the research may comprise the following: age and gender of employees and variables such as organizational climate and core competences.

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REFERENCES

Abernathy, W. J. and Utterback, J.M. (1978). “Patterns of innovation in technology”. Technology Review. Vol. 80, No. 7 Pp. 4047.

Afuah, A. (1996). “Maintaining a competitive advantage in the face of a radical technological change: the role of strategic leadership and dominant logic”. Working Paper, University of Michigan Business School.

Afuah, A. (1999) *La dinámica de la innovación organizacional. El nuevo concepto para lograr ventajas competitivas y rentabilidad*. Oxford University Press. México.

Aláez, M.A. (2001). Innovación y tamaño de empresa. Dykinson, S.L: Madrid, España. Amabile, T.M. (1998). “How to kill creativity”. Harvard Business Review. Vol. 76, Pp 7779.

Astley, G. W. and Sachdeva, D.S. (1984). “Structural sources of intra organizational power: a theorethical synthesis”. Academy of Management Review. No.1: 104–116.

Boer, H., Caffin, S., Corso, M., Coughlan, P, Gieskes, J., Magnusson, M., Pavesi, S. Ronchi, S. (2001). “Knowledgde and Continuos Innovation. The CIMA Methodology”. Journal of Operations and Production Management. Vol. 21, No. 4: 490503.

Buchanan, D.A. and Badham, R.J. (2008). *Power, politics and Organizational Change*. Sage Publications, Newbury Park, CA, USA.

Burns, T.and Stalker, G.M. (1961). *The Management of Innovation*. Tavistock, London

Butcher, D. & Clarke, M. (2003). “Redefining managerial work: smart politics”. Management Decision. Vol. 41, No. 5: 477487.

Christensen, C., Anthony, S. and Roth, E. (2004). *Seeing what´s next. Using the theories of innovation to predict industry change*. Harvard Business School Press: United States of America.

Connor, W. & Morrison, T. (2001). “A comparison of situational and dispositional predictors of perceptions of organizational politics”. The Journal of Psychology. Vol. 135, No. 3: 301312.

Cooper, J.R. (1998). “A multidimensional approach to the adoption of innovation”. Management Decision. Vol. 36, No. 8, P.p. 493502.

Cooper, RG (1985). “Overall corporate strategies for new product programs”. Industrial Marketing Management, Vol. 14 No. 3, P.p. 17993.

Crozier, M. and Friedberg, E. (1995) “Organizations and collective action: our contribution to organizational analysis”. In Bacharach, S.B. Gagliardi, P and Munde, B. (Eds. Research in the Sociology of Organizations. Elsevier Science, New York, NY USA, P.p. 7192.

Damanpour, F. (1991). “Organizatonal Innovation. A metaanalysis of effects of determinants and moderators”. Academy of Management Journal. Vol 34 P.p. 555590.

Damanpour, F. y Evan, W.N. (1984). “Organizational innovation and performance: the problem of organizational lag”. Administrative Science Quarterly. Vol. 29. P.p. 392409.

Dewar, R.D. y Dutton, J.E. (1986). “The adoption of radical and incremental innovations: An empirical analysis”. Management Science. Vol. 32, No. 1 Pp. 422.433.

Drory, A. (1993). “Perceived political climate and job attitudes”. Organization Studies. No. 14: 5971.

Ettlie, J.E; Bridges, W.P. y O´Keefe, R.D. (1984). “Organization strategy and structural differences for radical versus incremental innovation”. Management Science. Vol. 30 Pp. 682695.

Eisenhardt, K.M. & Bourgeois III, L.J. (1988). “Politics of strategic decision making in highvelocity environments: toward a midrange theory”. Academy of Management Journal. Vol. 31, No. 4: 737-770.

Fiol, C. M., O´Connor, E. J. & Aguinis, H. (2001). “All for one and one for all? The development and transfer of power across organizational levels”. Academy of Management Review. Vol. 26, No. 2: 224 – 242.

Green, S., Gavin, M. and AimanSmith, L. (1995). “Assessing a multidimensional measure of radical technological innovation”. IEEE Transactions on Engineering Management. Vol.42, No.3. P.p. 203214.

Kahn, K.B. (1996). “Interdepartmental integration: a definition with implications for product development performance”. Journal of Product Innovation Management, Vol. 13, No. 2, P.p. 137151.

Kahn, K.B. (2005). “Departament status: an exploratory investigation of direct and indirect effects on product development performance”. Journal of Product Innovation Management, Vol. 22, No. 6, P.p. 515526.

Kacmar, K.M. & Carlson, D.S. (1997) “Further validations of the perceptions of the politics scale (POPS): a multiple sample investigation”. Journal of Management. Vol. 23, No. 5: 627649.

Kanter, R.M. (1983). *The Change masters: Innovation for productivity in the American Corporation*. Simon and Schuster: New York, USA.

Kimberly, J.R. and Evanisko, M.J. (1981) “Organizational innovation: the influence of individual, organizational, and contextual factors on hospital adoption of technological and administrative innovation”. Academy of Management Journal. Vol. 24.P.p. 689713.

Kohn, K. (2006). “Managing the balance of perspectives in the early phase of NPD”. European Journal of Innovation Mnagement. Vol. 9, No. 1, P.p. 4460.

Lawrence, P.R. and Lorsch, J.W. (1967). “Differentiation and integration in complex organizations”. Administrative Science Quarterly. Vol. 12, No. 1 P.p. 147.

Madison, D. I., Allen, R. W., Lyman, W., Renwick, P., y Mayes, B. (1980) "Organizational politics and its effects on members of organizations". Human Relations. Vol. 42, No. 42: 305-314.

McLean, L.D.(2005). "Organizacional Culture´s Influence on Creativity and Innovation: A review of the Literature and Implications for Human Resource Development". Advances in Developing Human Resources. Vol. 7, No. 2, Pp. 226246.

Mintzberg, H. (1983). Power in and Around Organizations. Prentice Hall: Englewood, NJ USA. Mintzberg, H. (2002). "The organization as political arena". Journal of Management Studies. Vol. 22, No. 2, P.p. 133154.

Pfeffer, J. (1981). *Power in Organizations.* Pitman Publishing: London Piercy, N. (1986). Marketing Budgeting. Routledge: London.

Poon, J.M.L. (2003). "Situational antecedents and outcomes of organizational politics perceptions". Journal of Managerial Psychology. Vol. 18, No. 2: 138155.

Ramirez, E., Baños, V, and Orozco, M. (2014). "The inner circle: How politics affect organizational climate?" Journal of Organizational Culture, Communication and Conflict. Vol. 18, No. 1: 65-88.

Robbins, S. P. (1998) *La Administración en el Mundo de Hoy.* Prentice Hall: México.

Rogers, E.M. (1995). *The difusion of innovations*. 4th. Edition. Free Press: USA.

Rogers, E.M. and Shoemaker, F.F. (1971) *Communication of Innovations: A CrossCultural Approach.* Free Press, New York, NY.

Rottemberg, J.J. and Saloner, G. (1985). "Overt interfunctional conflict (and its reduction through business strategy)". RAND Journal of Economics. Vol. 26, No. 4, P.p. 630653.

Schumpeter, J.A. (1934). *The Theory of Economic Development*. Harvard University Press: USA.

Souder, W.E. (1988). "Managing relations between R&D and marketing in new product development projects". Journal of Product Innovation Management. Vol. 5, No. 1 P.p. 619.

Swan, J., Newell, S., Scarbrough, H. y Hislop, D. (1999) "Knowledge management and innovation: networks and networking". Journal of Knowledge Management.Vol. 3, No. 3, P.p.262275.

Tjosvold, D. and Poon, M. (1998). "Dealing with scarce resources openminded interaction for resolving Budget conflicts". Group & Organization Management. Vol. 23, No. 3, P.p. 237255.

Tushman, M.L. and Anderson, P. (1986). "Technologycal discontinuities and Organizational Environments". Administrative Science Quarterly. Vol.3, Pp. 439465.

Van de Ven, A.; Polley, D.; Garud, R. y Venkataraman, S. (2001). *El viaje de la innovación. El desarrollo de una cultura organizacional para innovar*. Oxford University Press. D.F. México.

WeissenbergerEibl, M.A. and Teufel, B. (2011). "Organizational politics in new product development project selection. A review of the current literature". European Journal of Innovation Management. Vol. 14, No. 1, P.p. 5173.

Yeung, A., Ulrich, D., Nason, S., and Von Glinow, M.A. (2000). *Las capacidades de aprendizaje en la organización. Cómo aprender a generar y difundir ideas con impacto*. D.F., México: Oxford University Press.

Zhao, F. (2005) "Exploring the synergy between entrepreneurship and innovation".International Journal of Entrepreneurial Behaviour and Research. Vol.11, No. 1. P.p. 2541.

STRATEGY IN AN ERA OF ECONOMIC UNCERTAINY: INTEGRATING EXTERNAL AND INTERNAL ANTECEDENTS OF FIRM PERFORMANCE

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ABSTRACT

According to the "structure-based view" of performance, the way a firm fits into the industry structure is seen as the primary source of competitive advantage. On the other hand, the "strategy-based view" contends that process-based aspects of firms should be accorded far more importance in the study of the determinants of performance than macro, structural indicators. While research in both these fields has added immeasurably to our understanding of inter-firm heterogeneity, there has been little attempt at integrating the wisdom from their collective findings. In this paper, we attempt to place the two fields in an integrative framework, arguing that linking the research on the strategic variables with structural research can explicate a number of unexplained facets of firm performance.

INTRODUCTION

In the context of strategy theory, the current economic challenges faced by firms across the globe may be seen as a sign that external economic forces are more powerful determinants of firm performance than internal indicators (Albors-Garrigos, Molina & Molina, 2014; Wilson & Eilertsen, 2010). Be it the credit crisis, the reduction in global consumption, or the pervasive problems associated with the global supply chain, current economic wisdom seems to call for firms to pay greater attention to positioning themselves against environmental turbulence rather than premising strategic decision on inwardly focused approaches. This is ironic because in the arena of strategic theory, the notion of internal drivers of performance, as exemplified by the dynamic capabilities perspective (Barretto, 2010; Helfat et al, 2007), is hegemonic in the current era. In other words, theorists suggest that firm success is determined primarily by how firms configure their internal resources and core competence. Which view explains firm performance better? In this paper, we suggest that this is in reality a flawed question; i.e. the purported antagonism between external and internal antecedents of firm performance is an unhelpful fiction. We attempt to go beyond the artificial binary between these two approaches, i.e. between external and internal indicators of firm performance to offer a possible integrated model.

The impact of market structure on firm performance has been the subject of considerable discussion and debate in strategic management (Porter & Siggelkow, 2008; Galunic & Eisenhardt, 1994). Drawing from the structure-conduct-performance paradigm in I/O economics, this discussion has progressed from an analysis of the impact of industry concentration on profitability to the impact of market share on profitability. Similarly, research on contingency theory has tightened the unit of organizational analysis from the corporate level to the SBU level (Rumelt, 1991). According to these perspectives, which may be collectively termed the "structure-based view" of performance, the way a firm fits into the industry structure is seen as the primary source of competitive advantage.

On the other hand, considerable parallel research has been being conducted on the strategic determinants of firm performance (Newbert, 2007). Grounding its research in an analysis of strengths that are inherent within the firm, this stream of research, which may be termed the "strategy-based view" of performance, has isolated valuable drivers of inter-firm heterogeneity through the understanding of core competence (Prahalad & Hamel, 1990), strategic factor markets (Barney, 1986), and dynamic capabilities (Helfat et. al. 2007). The contention of the strategy-based view is that process-based aspects of firms should be accorded far more importance in the study of the determinants of performance than macro, structural indicators.

While research in both these fields has added immeasurably to our understanding of inter-firm heterogeneity, there has been little attempt at integrating the wisdom from their collective findings (cf. Conner, 1994, for a prominent exception). In this paper, we attempt to place the two fields in an integrative framework, arguing that linking the research on the strategic variables with structural research can explicate a number of unexplained facets of firm performance. The paper seeks to build links between these two apparently diverse views of firm performance, arguing that strategic variables may be seen as drivers of structural variables rather than moderators thereof. In other words, structural variables may be seen not merely as drivers of firm strategy, but occasionally, its outcomes. In an econometric sense, it suggests that modeling strategic variables into structural elements of firm performance would explain far more variance in performance than a discrete examination of either stream.

The rest of this paper is organized into three main parts. The first part provides a historical and analytical overview of the debate on structure and performance, from its inception in the field of industrial economics down to its adoption by the field of business strategy. It summarizes the main findings of this view and critiques its shortcomings as an analytical tool. In the second part, the strategic view of firm performance is introduced and analyzed as an alternative explanation of firm performance. Its diverse sub-streams and shortcomings are also explored. The final section is concerned with postulating an integrative framework between these two streams, and developing propositions whereby links can be made between their respective empirical agendas. This integrative framework is meant not only to further the contention that strategic behavior by firms and industry structure exist in a reciprocal relationship, but also to suggest areas of commonality in the two perspectives that may lead to a unified research agenda.

STRUCTURE-BASED VIEW OF FIRM PERFORMANCE

Research in strategic management has always acknowledged its relationship with the field of economics in general and industrial organization in particular (Kim & Mahoney, 2005; Rumelt, Schendel, & Teece, 1991). While the areas of collaboration and joint theory building between the two fields are indeed diverse, nowhere is the relationship stronger than in the examination of the impact of market power as represented by a variety of structural variables on firm performance. It may be contended that while the foundations of research on the relationship between structure and performance were laid in the field of traditional industrial organization theory, much of the subsequent refinement in the debate came from the field of strategy. For instance, while the postulated relationship between industry structure and firm profitability was inspired largely by Bain's (1956) study of the relationship between profitability and industry concentration and subsequent empirical studies confirming this relationship especially on the temporal scale (Weiss, 1971), it was research that went beyond the confines of neo-classical economics into management strategy which introduced market share as a more explanatory determinant of firm performance (Ravenscraft, 1983; Chu, Chen & Wang, 2008).

The theory that profitability and market share were causally linked provided the basis for further disaggregation of the unit of analysis in structural research from the industry to the firm. The theoretical persuasion for this disaggregation was primarily laid by the emergence of strategic groups as a construct (Caves & Porter, 1977). However, the primary empirical impetus for this disaggregation, and indeed, the repudiation of all industry level aggregation, may be attributed in large part to the analyses that were conducted using data made available from the Profit Impact of Market Share (PIMS) database and the Federal Trade Commission's Line-of-Business data. While PIMS provided disaggregated data for a small but dominant sample of firms (all of which figured in the Fortune 500 list), the FTC data was far more comprehensive, though it is available for far too short a period to lend itself to any meaningful longitudinal analysis.

Using PIMS, researchers were not only able to demonstrate a strong correlation between market share and performance, but also to speculate on the specific quantitative relationship between market share and profitability (they wished to come up with specific, quantitative relationships between % increases in market share and % increases in profitability). While this quantitative relationship has been hotly debated in the marketing literature (Jacobson & Aaker, 1985), the relationship between market share and profitability was subsequently confirmed by other studies (Chu, Chen & Wang, 2008), which found that the incorporation of market share in the structure-performance equation rendered concentration completely ineffective as an explanatory variable.

In terms of units of analysis, the structural view of firm performance has concentrated on four levels, viz. the industry/strategic group level, the corporate level, the SBU level, and at the level of intra-corporate fit (Vorhies, Morgan & Autry, 2009).

First, borrowing from the I/O perspective, the industry/strategic group analytical level tries to explain how firms use their resources to draw industrial boundaries - thereby making it difficult for new entrants to capitalize on rents enjoyed by incumbents (Bain, 1956). Further

refinement of the barriers to entry concept reveals that industries may not be the best criteria to draw boundaries - instead, firms tend to cluster in strategic groups, which may pose mobility barriers to new entrants rather than entry barriers (deSarbo, Grewal and Wang, 2009).

Second, drawing primarily from Chandler's (1962) study of the strategy-structure relationship, corporate level theorists primarily explore issues of diversification and its impact on structure and performance. Chandler's theories were extended by Rumelt (1974), who found that the strategies of related-constrained and related-linked diversification were more profitable than unrelated diversification. Studies of diversification have constantly attempted to explore the link between relatedness of diversification profile and performance (Nath, Nachiappan & Ramanathan, 2010). While related diversification has an intuitive appeal, empirical results have been equivocal; while some researchers found support for Rumelt's hypothesis, others found that unrelated diversifiers outperformed related firms in some industries.

Third, some theorists have argued that variances in firm performance are best explained through business level strategies. They contend that drivers of performance are meaningless if the unit of analysis is the diversified firm, since many strategies tend to get aggregated; the ideal unit of analysis should be the strategic business unit (SBU) (Rumelt, 1991). Drawing from this finding, there may be normative strategies that SBUs may employ to succeed in a variety of environments, such as cost-based strategies, differentiation strategies or narrowly focused strategies (Porter, 1980). Such strategies may be used uniquely or in combination (Hill, 1989). Based on the types of environment encountered by SBUs, they may be classified according to their strategic focus as prospectors, analyzers, defenders or reactors. SBUs may also vary their strategies at the product level, based on the product life cycle, or the information available about the product environment (Brown & Blackmon, 2005).

Finally, going beyond the corporate and the business level, theorists of intra-corporate fit (Gupta & Govindarajan, 1986, 2000) have argued that fit between intra-corporate units is important, and that corporate strategy is no more than a portfolio of separate SBU strategies rather than simple diversification. Firms may have a mixture of SBUs that are prospectors, cost-leaders, innovators, etc. The concern of these researchers was to derive different management characteristics that were needed to drive different SBU strategies effectively. Their endeavors were later joined by others who attempted to explore the different control arrangements that were needed between corporate headquarters and SBUs, and the different inter-SBU relationships that were needed for the same (Hill, Hitt, & Hoskisson, 1992; Ocasio & Joseph, 2008).

STRATEGY-BASED VIEW OF FIRM PERFORMANCE

Theories of the strategic determinants of firm performance concentrate more on the efforts of firms in creating competitive advantage by developing internal routines and exploiting synergies rather than through structural maneuvering (Newbert, 2007). While many schools of thought may be linked to the strategy-based view, three research streams appear representative of this perspective; the resource based view of the firm, nowadays being buttressed by the dynamic capabilities perspective, corporate leadership, and strategic decision-making. In all these research streams, strategic choices made by managers and firm constituents are emphasized as

being far more important to firm performance than structural constraints. For example, the resource based view conceptualizes human resources as valuable sources of competitive advantage (Barney, 1986; Newbert, 2007), while the dynamic capabilities perspective seeks to understand how organizations 'learn to learn" (Theodore, 2014; Barretto, 2010) and renew their ore competences.

The aim of these inter-related perspectives is to understand how companies are able to achieve rent benefits through the management of their strengths and weaknesses rather than environmental positioning. Most researchers agree that this is achieved though the development and improvement of specific strategies that are hard to imitate by competitors. Hence, they agree that competitive advantage itself is idiosyncratic, and its sustainability is dependent precisely upon its resistance to replication.

The resource based view and increasingly, the dynamic capabilities (DC) perspective, lies at the heart of this paradox. According to these perspectives, the advantage of the resource-rich firm lies in the fact that its resources and the routines, capabilities, competencies that arise therefrom, are tacit, ambiguous, difficult to imitate (Reed & DeFilippi, 1990). According to these perspectives, firms develop and maintain a sustainable competitive advantage through unique and idiosyncratic characteristics. DC theorists have somewhat ambitiously suggested that the key to superior firm performance in the future lies in a firm's ability to corral complex and innate knowledge assets into routines (Lo, 2013; Helfat et al, 2007).

The resource-based view of the firm seeks to explain patterns of performance differences in firms by conceptualizing them as collections of heterogeneous resources. Resources may be physical (plant and equipment), human (managerial and technical staff) or organizational (routines and coordinating mechanisms). The dynamic capabilities view argues that heterogeneous resource endowments are sources of competitive advantage if they are value creating, rare, imperfectly imitable, or non-substitutable.

This approach places itself in opposition to the outward focus advocated by the industry-structure hypothesis. In an attack on the structural preoccupations of the research in strategy, Barney (1986, p. 1240) criticizes research that "is based on the observation that firms which compete in imperfect product markets enjoy above normal returns". While the correlations between firm performance and market imperfections has been statistically observed, Barney contends that it is a poor explanatory variable for understanding firm heterogeneity, and that firms need to look inward to "exploit resources they already control in choosing strategies"(p. 1239). In effect, Barney exemplifies the antipathy of the resource-based view of the firm toward structural analysis.

The resource-based view grounds its research in an analysis of strengths that are inherent within the firm, this stream of research has isolated valuable sources of inter-firm heterogeneity such as core competencies (Prahalad & Hamel, 1990), strategic factor markets (Barney, 1986), uncertain imitability (Lippman & Rumelt, 1982), organizational climate (Hansen & Wernerfelt, 1989) and intangible assets (Hall, 1993). Many theorists (e.g. Menguc & Barker, 2005) have found that the resource-based and dynamic capabilities perspectives are quite complementary and mutually reinforcing.

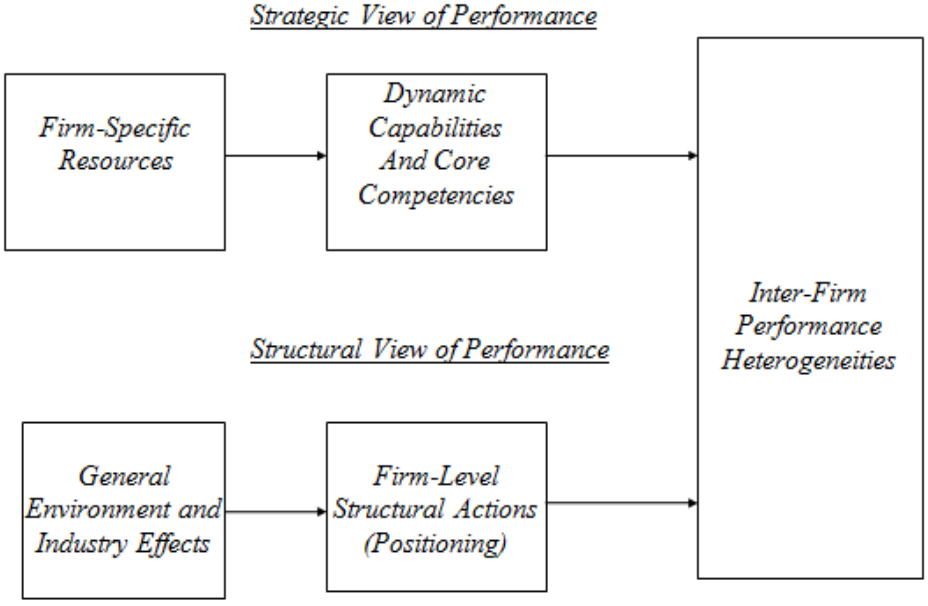
Building on this theme is the contention that firms create sustained competitive advantage by creating conditions of causal ambiguity (Reed & DeFillippi, 1990). Informed in part by the literature in contestability of markets and its repudiation of the concept of entry barriers, such approaches suggest that in the absence of external drivers of heterogeneity, firms need to create different conditions under which they can sustain their positions of ascendance in various markets. They do so by the creation of non-duplicable resources (Anand et.al. 2009), setting up specific routines of work that are in effect non-transferable (Nelson & Winter, 1982), through specificities of organizational culture that are unique to the organizational environment (Barney, 1986) and by developing and nurturing their core competencies (Prahalad & Hamel, 1990). In effect, firms look inward and create areas of expertise that are relevant, value creating and imperfectly imitable (Anand et.al. 2009).

STRUCTURAL AND STRATEGIC VIEWS: TOWARD A SHARED LEARNING

Much of the existing research on the examination of the structural determinants of firm performance has tended to minimize or set aside the strategic aspects of firm performance (McGahan & Porter, 2007). While some of the research using the PIMS database has attempted to study qualitative determinants of market share such as quality of organizational resources, nature of leadership, or the process of decision making, they have been used largely to supplement the findings of structural analysis rather than as variables in their own right. However, one of the few comprehensive attempts to include strategic attributes in a 'traditional' market share-profitability equation (Jacobson & Aaker, 1985) reported a dramatic reduction in the coefficient associated with market share when other attributes such as product quality were included as independent variables. Clearly, there exist great linkages between the strategic and structural elements of performance, suggesting that the two are by no means contradictory (Kavale, 2012).

The "unintegrated" approaches taken by the strategic and structural views have been

Figure 1. "Unintegrated" Views on Inter-Firm Performance Heterogeneities



represented schematically in Figure 1. While the strategy based view of the firm concentrates on the relationship between resources and competencies, the structural view is preoccupied with finding industry-based drivers of heterogeneity. The relationship between the empirical foci of both streams has been demonstrated in many ways; for example, research in the field of marketing has empirically tested the relationship between firm performance and a variety of attributes that reflect strategic decisions, such as breadth of product lines (Rao & Rutenberg, 1979), product quality (Garvin, 1988), price (Monroe & Krishnan, 1984), advertising expenditure (Tellis, 1988), sales staff expenditure (Gatignon & Hanssens, 1987), R & D expenditure (Hill & Snell, 1989) and intangible factors (Boulding & Staelin, 1990). As can be seen, these variables affect the strategic and structural view equally. However, in the realm of strategic management, empirical research has tended to focus more on the structural perspective. This may be due in part to the current difficulties in operationalizing the strategic view, and also to the availability of extremely rich data sources to aid research in the structural perspective. Databases such as the FTC LB data and PIMS in addition to individually culled data sources and other sources such as Compustat and Bloomberg have aided a great deal of the research, to the extent that research conducted purely on structural lines in a cross-sectional framework now seems to provide little further insight into the conundrum of inter firm heterogeneity.

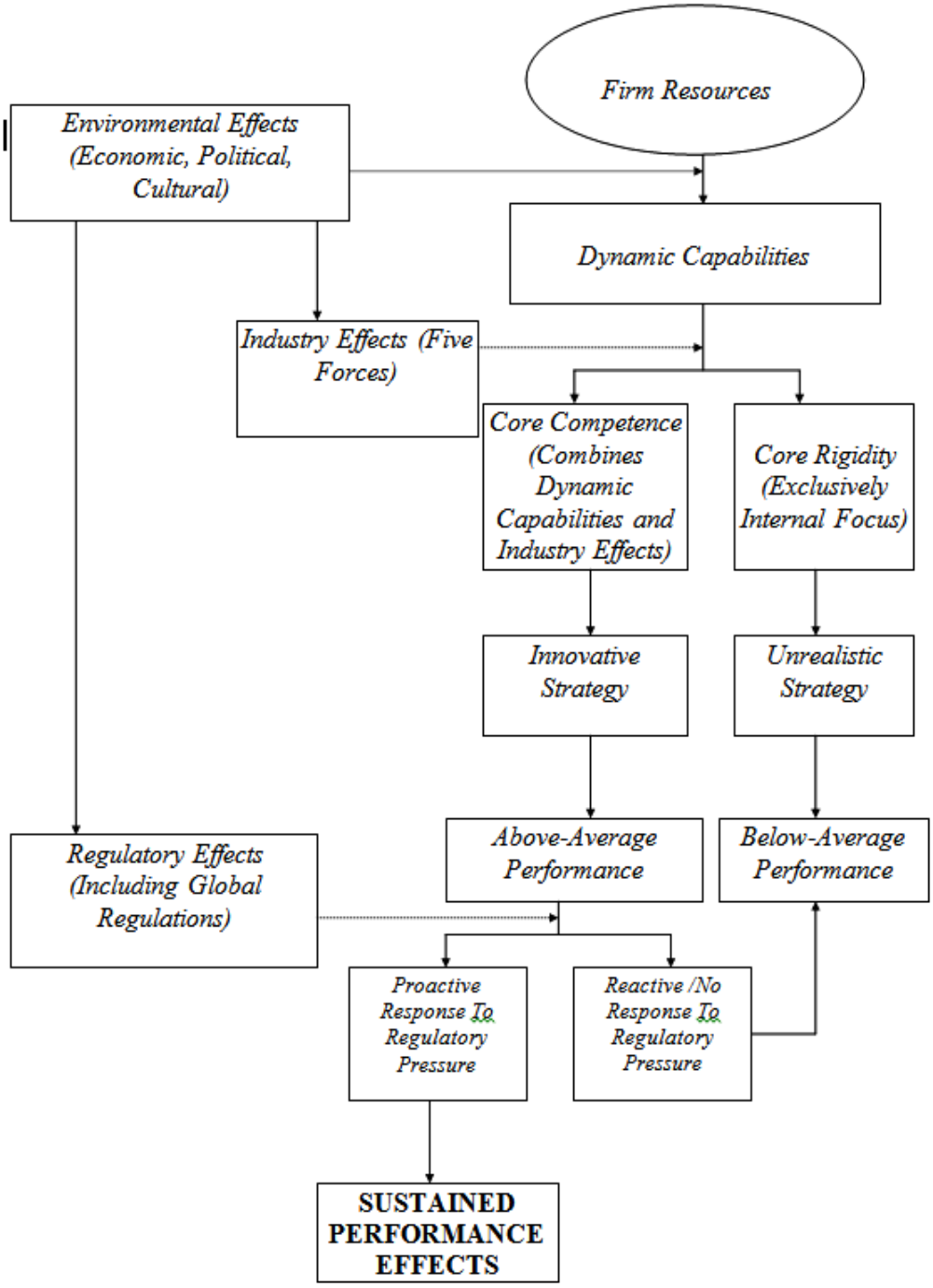
However, neither the strategy based view of the firm nor a purely structural analysis can address the inadequacy that we have begun to associate with discrete models. There is considerable evidence to suggest that the act of attempting to combine the wisdom of these two streams may not be as foolhardy as the intense debates between the proponents of these two paradigms would have us believe. For instance, despite the intense debate between the industry-structure view and the resource based view of the firm, large areas of commonality are visible upon closer scrutiny. Arguing specifically for the amalgamation of the industry-structure perspective and the resource-based perspective, Conner (1994) identifies four areas of commonality:

1. *Acknowledged importance of industry structure;*
2. *The understanding that industry conditions do not determine firm strategy;*
3. *Belief in the power of firm-level actions to affect industry structure;*
4. *Acknowledgment of exogenous influences on industry structure.*

Similarly, the artificial nature of the dichotomies we create by pigeonholing all research on firm performance into these categories can be further observed when a different classification scheme yields different groupings of approaches. For example, if we were to dichotomize the theories of the firm into theories of equilibrium and theories of disequilibrium (Best, 1990, p. 106), the strategic view and the structural view would both be seen as belonging to the equilibrium theories. Equilibrium theories would comprise the Penrosian view which takes into account much of the strategic view of firm performance, the Coasian view which studies the transactional view of the firm and the Marshallian view of static equilibrium which informs the structural perspective. These theories could then be seen as challenging economic theories that rely on disequilibrium (such as the Schumpeterian view). Clearly, the integrative framework attempted herein does have a theoretical mandate as well as a precedent.

The proposed integrative framework, which is represented in Figure 2, postulates a

Figure 2. Integrative Framework Connecting Strategic and Structural Approaches



dynamic relationship between structural determinants of firm performance such as general environmental, industry and regulatory effects, and internal strategic determinants such as

dynamic capabilities and core competence. It also suggests that in the absence of an external focus, a core competence may morph into a core rigidity, which would affect firm performance negatively. In terms of its integrative aspects, this framework makes five major distinctions from the existing wisdom.

1. Industry/Firm Reciprocity

Contrary to the contentions that may be derived solely from the structure-based view, it sees industry structure more as an outcome variable in the interactions between firms and markets rather than purely a driver of firm performance. Based on the above contention, the following proposition for research may be offered:

Proposition 1: Industry structure and firm performance exist in a condition of dynamic equilibrium; sometimes industry structure may be seen as a resultant of firm performance rather than a determinant thereof.

In an econometric sense, this proposition argues for using market structure variables as dependent variables in the performance equation, where firm performances within an industry may be used as independent variables. In a theoretical sense, it suggests that it is not industry level variables (such as barriers to entry) that constrict firm performance, but rather the actions of individual firms within the existing industry or strategic group that exert greater pulls. From a practitioner's perspective, this proposition challenges the contention that blind commitment to increasing market share at the expense of differentiation can lead to the panacea of improved performance; market share is viewed more as an indicator of performance rather than a bland causal antecedent thereof.

2. The Environment as a Source of Dynamic Capability

Instead of viewing core competencies as being causally derived from firm-specific resources, the new model argues that strategic factors that contribute to a firm's competitive advantage are direct results of the application of core competencies to freely available resources. For instance, Google's business model is based on its ability to facilitate search of already available digital data, while Apple has monetized digital music downloads by fashioning its ITunes software so that consumers can access available and copyrighted music from vendors (Auletta, 2009). Following from the logic of the above premise, it may be argued that freely available resources from external factor markets can play an equally important role as the constituents of competitive advantage as long as firm-specific core competencies are deployed to make innovative and value-creating products therefrom. This contention may be formally articulated as follows:

Proposition 2: Freely available resources may be as much a source of competitive advantage as firm-specific resources, provided they exhibit a unique fit within the firm's dynamic capabilities.

The above proposition is also seconded by the research on hyper-competition, where it is observed that speed of response may lead to advantage even when regular strategic decisions are being employed; in other words, there are conditions where, given the same access to resources, some firms may outperform others because some aspect of their core competency assists in the speed of response.

For modelers, this proposition offers a method of relating (operationalizable) specificities in the resource structure of the firm to (intangible) competencies. From a theoretical standpoint, it challenges the current taxonomy of competencies into input-based, managerial, output-based and transformational competencies (Lado & Wilson, 1994). Rather, in a Schumpeterian sense, it may be argued that all competencies are, by definition, transformational. For practitioners, this offers a way in which such competencies can be linked to expected performance during the planning process.

3. The Role of Luck and Timing

The incorporation of stochastic elements into the model offers a far more realistic analysis of the peculiarities of inter-firm heterogeneity. As described earlier, stochastic elements may have integral parts to play in the creation of heterogeneities. The planned entry of a large player into the market may substantially alter the contours of the market overnight. Similarly, exit decisions by competitors are not events that one can plan for. There is always the element of luck, fortune and force majeure elements that may radically alter a firm's fortunes. The stochastic element therefore not only has the potential to exert a tremendous and unexpected force on firm performance, it may radically alter the industry structure.

Based on a need to take the stochastic element into account, a third proposition may be offered as follows:

> *Proposition 3: Competitive advantage may be related to events that are beyond the ambit of structural or strategic analysis; to that extent, models of performance need to account for stochastic elements.*

In econometric terms, this proposition argues for including elements of this uncertainty into any model that they proposed. One of the best examples of such modeling was provided by Lippman and Rumelt (1982), who operationalized uncertain inimitability by "[m]aking a parameter of the firm's cost function depend upon a realization from a probability distribution" (p. 420). Such incorporations into simulations are extremely important, as they recognize the inherent reality of our inability to account for factors in the model that may play a major role in the creation of firm-level advantages. In terms of the interpretation of results, it frees models from the "tyranny of the r-square", and allows them concentrate more on specific explanatory tasks.

For theory, the study of stochastic elements offers insight in that macro analysis, trend based studies, longitudinal data and survivor analysis become more important as explanatory as well as predictive indicators rather than mere cross-sectional data. For practitioners, it suggests a

greater level of macro-analysis to predict, pre-empt or take advantage of environmental exigencies.

4. Special Challenges for Global Firms

International management theorists have been engaged in studying the structural and competitive elements of a global strategy from a long time (Birkinshaw, Morrison, & Hulland, 1995). Such studies have attempted to describe markets and industries as under-globalized, optimally globalized or over-globalized depending on the level of international competitive activity (Peng and Pleggenkuhle-Miles, 2009). The level of globalization of a particular market may be seen as a very important moderating factor in the role that structural factors may play in enhancing firm performance. For example, in underglobalized markets, while there may be great advantages in structural factors such as barriers to entry, mature global markets will not only demand differentiated products, but will also provide large enough markets to firms, whereby the advantages associated with structural factors may be minimized. In other words, it may be proposed that:

Proposition 4: Structural factors will play a far more vital role in underglobalized markets than in mature global markets; the more globalized a market, the less critical will be the impact of structural factors.

This proposition locates its theoretical roots on the Post-Fordist literature (DiPrete, Goux & Maurin, 2002), where it is contended that growing heterogeneities in market demand in late-capitalist industrial segments as well as increasing sophistication of manufacturing technologies will lead to lesser emphasis being placed upon structural factors such as economies of scale. In other words, the more globalized the economy, the greater will be the demand for flexibility in distribution (Gao & Yoshida, 2013) and manufacturing systems (Piore, 1994), and leading to niche markets, specialized products and reduced entry barriers.

5. Market-Hierarchy Blurring

Not only are markets getting globalized, but relationships between markets and hierarchies are being fundamentally altered by the advent of newer technology. It may be argued that in the Post-Fordist marketplace, the firms that will be able to sustain their competitive advantage will be those that are able to network with other firms in other geographic and product markets to develop synergies. Be they buyer-supplier synergies (Martin, Mitchell, & Swaminathan, 1995), or synergies of shared resources (Piore & Sabel, 1984), these networks of cooperation between firms will be powerful sources of competitive advantage, flexibility and lowered costs in the Post-Fordist workplace. It must be kept in mind however, that such innovative blending of strategic and structural arrangements may not be immediately observable in technologically stable environments, where stable manufacturing and marketing options render it lot of competitive activity more profitable, but will be exhibited only in industries which demand technological sophistication, capital intensive up-front investment in infrastructure, research and product development, and the rationality of cooperation as a risk-

reducing, cost-reducing and resource-sharing device. This contention can be stated in the form of a proposition as follows:

Proposition 5: Networking and cooperative strategies will be a powerful source of competitive advantage in technologically advanced industries; to that extent, technological advancement will diminish the importance of traditional structural attributes and contingencies.

This proposition however implies that relationships between collaborating firms can no longer remain superficial, but become more organic. Such relationships, as have been observed in many industrial districts (Piore & Sabel, 1984), imply that firms not only share facilities and finances, but also specific resources, know-how and trade secrets. For example, the joint research effort by two pharmaceutical companies to develop a new drug can only be possible when the companies share the inertia of accumulated basic research of decades. Such collaborations are becoming more and more prominent in the technology intensive segment, especially in the information sector, where diverse information providers are trading core competencies (the relationship being Google and media companies being a prominent case) and newer organizational arrangements seek to adapt to newer forms of customer interface (such as the semantic web). Based on these ground realities, it may be proposed that:

Proposition 5 (a): In emergent, technology intensive sectors, core competencies may also be tradable.

Taken at face value, this proposition appears to be a repudiation of the core competence perspective. However, this should be viewed more as a special case scenario than as a contradiction. As Piore (1994) has argued, the entire notion of firm propriety and boundaries has been challenged in the emergent technology sectors.

For researchers, the above propositions represent the need to take industry-specific factors into account while modeling the performance relationships. In particular, hi-tech industries, and those requiring capital-intensive product development need to be treated differently from those industries with conventional product ranges.

DISCUSSION

In moments of economic crisis, it is essential that firms use their internal strengths as well as their ability to leverage economic trends harmoniously; this is the only way for them to succeed in an atmosphere as turbulent as the one we are currently experiencing (Wilson & Eilerstein, 2010). In this paper, we have suggested a more holistic and integrated perspective that needs to be employed in order to fully understand the issue of firm heterogeneity. The integrative framework presented herein represents but one way in which we may go about this.

The discussion about the integration of strategy and structure contains tremendous interdisciplinary possibilities. Theorists of political science, public administration, sociology and education have been grappling with a similar need to balance the deterministic elements of structure and the role played by individual will in this process. The fundamental inadequacy associated with the structural view is that a lot of detail and nuance regarding a firm's process-

based dynamic is sacrificed at the altar of operationalization. This loss may be likened to searching for a lost object only where the light is adequate, and disregarding the dark areas. On the other hand, the strategic perspective may be faulted on the grounds that it is far too relativistic to be operationalizable. It is tautological to state that firms perform better because they have intangible advantages; the challenge is to render these advantages tangible, a challenge that the strategic view scarcely accepts.

The proposed continuum starts from structural (and measurable) aspects of firm performance, and suggests ways in which they can be disaggregated into the strategic aspects. It also discusses specific issues relating to the operationalization of these aspects, which will be important for the aspiring empirical researcher. Also, practitioners also need to be aware that exclusive reliance on structural parameters such as market share may not be the best option under the circumstances, it is far more important to view structural parameters as outcomes of strategic actions rather than as performance indicators in their own right.

Much of the intensity of the debates in the field would be better served if put to work in discovering elements of commonality and continuity. To the extent that the explication of heterogeneities forms one of the cornerstones of research in the "content" segment of the field of strategic management, it constitutes a relevant and important area of concentration. This integrative framework represents the beginning of an attempt to address one of the biggest challenges that has faced modelers of strategic performance, the inability to operationalize intangibles such as dynamic capabilities. In addition, it suggests the incorporation of stochastic and probabilistic elements into quantitative analysis, which represents an important agenda for research and inquiry.

REFERENCES

Albors-Garrigos, J., B. d. M., Molina, & M. d. M., Molina (2014). Positioning in the global value chain as a sustainable strategy: A case study in a mature industry. *Administrative Sciences, 4*(2), 155-172.

Anand, G., P. Ward, M. Tatikonda & D. Schilling (2009). Dynamic capabilities through continuous improvement infrastructure. *Journal of Operations Management*, 27(6), 444-471.

Auletta, K. (2009). *Googled: The End of the World as We Know it*. New York: Penguin.

Bain, J. S. (1956). *Barriers to competition*. Cambridge, MA: Harvard University Press.

Barney, J. B. (1986). Strategic factor markets: Expectations, luck and business strategy. *Management Science*, 42, 1231-1241.

Barretto, I. (2010). Dynamic capabilities: A review of past research and an agenda for the future. *Journal of Management*, 36 (1), 256-291.

Best, M. H. (1990). *The new competition: Institutions of industrial restructuring*. Cambridge, MA: Harvard University Press.

Birkinshaw, J., A. Morrison & J. Hulland (1995). Structural and competitive elements of a global integration strategy. *Strategic Management Journal*, 16(8), 637-655.

Boulding, W. & R. Staelin (1990). Environment, market share and market power. *Management Science*, 36(10), 1160-1177.

Brown, S. & K. Blackmon (2005). Aligning manufacturing strategy and business-level competitive strategy in new competitive environments: The case for strategic resonance. *The Journal of Management Studies*, 42(4), 793-812.

Caves, R. E. & M. E. Porter (1977). From entry barriers to mobility barriers: Conjectural decisions and contrived deterrence to new competition, *Quarterly Journal of Economics*, 91(2), 241-261.

Chandler, Jr., A. D. (1962). *Strategy and structure: Papers in the history of the American industrial enterprise*. Cambridge, MA: The MIT Press.

Chu, W., C. Chen & C. Wang (2008). The market share-profitability relationships in the securities industry. *The Service Industries Journal*, 28(6). 813-829.

Conner, K. R. (1994). The resource based challenge to the industry structure perspective. *Proceedings of the Academy of Management Meeting, Dallas*, 17-21.

DeSarbo, W., R. Grewal & R. Wang (2009). Dynamic strategic groups: deriving spatial evolutionary paths. *Strategic Management Journal*, 30(13), 1420-1432.

DiPrete, T., D. Goux & E. Maurin (2002). Internal labor markets and earnings trajectories in the post-Fordist economy: An analysis of recent trends. *Social Science Research*, 31(2), 175-191.

Galunic, D. C. & K. M. Eisenhardt (1994). Renewing the strategy-structure-performance paradigm. In B. M. Staw & L. L. Cummings (Eds.) *Research in organizational behavior* (Vol. 16) (pp. 215-226), Greenwich, CT: JAI Press.

Gao, Z., & S.,Yoshida (2013). Analysis on industrial structure and competitive strategies in liner shipping industry. *Journal of Management and Strategy*, *4*(4), 12-20.

Garvin, D. A. (1988). *Managing quality*. New York: Free Press.

Gatignon, H. & D. M. Hanssens (1987). Moderating market interactions with application to salesforce effectiveness. *Journal of Marketing Research*, 24(3), 247-257.

Gupta, A. & V. Govindarajan (2000). Knowledge flows within multinational corporations. *Strategic Management Journal*, 21(4), 473-491.

Gupta, A. K. & V. Govindarajan (1986). Resource sharing among SBUs: Strategic antecedents and administrative implications, *Academy of Management Journal*, 29(4), 695-714.

Hall, R. (1993). A framework linking intangible resources and capabilities to sustainable competitive advantage. *Strategic Management Journal*, 14(8), 607-618.

Hansen, G. S., & B. Wernerfelt (1989). Determinants of firm performance: the relative importance of economic and organizational factors. *Strategic Management Journal*, 10(5), 399-411.

Helfat C., S. Finkelstein, W. Mitchell, M. Peteraf, H. Singh H, D. Teece & S. Winter (2007). *Dynamic Capabilities: Understanding Strategic Change In Organizations*. London: Blackwell.

Hill, C. W. L. & S. A. Snell (1989). Effects of ownership, structure and control on corporate productivity. *Academy of Management Journal*, 32(1), 25-46.

Hill, C. W. L., M. A. Hitt & R. E. Hoskisson (1992). Cooperative versus competitive studies in related and unrelated diversified firms. *Organization Science*, 3(4), 501-521.

Jacobson, R. & D. A. Aaker (1985). Is market share all that it's cracked up to be? *Journal of Marketing*, 52, 68-80.

Kavale, S. (2012). The connection between strategy and structure. *International Journal of Business and Commerce, 1*(6), 59-70.

Kim, J. & J. Mahoney (2005). Property rights theory, transaction costs theory, and agency theory: an organizational economics approach to strategic management. *Managerial and Decision Economics*, 26(4), 223-242.

Lado, A. A. & M. C. Wilson (1994). Human resource systems and sustained competitive advantage: A competency-based perspective. *Academy of Management Review*, 19(4), 699-727.

Lippman, S. A. & R. P. Rumelt (1982). Uncertain imitability: An analysis of interfirm differences in efficiency under competition. *Bell Journal of Economics*, 13(2), 418-438.

Lo, F. Y. (2013). The dynamic adjustment of environment, strategy, structure, and resources on firm performance. *International Entrepreneurship and Management Journal, 9*(2), 217-227.

Martin, X., W. Mitchell, & A. Swaminathan (1995). Recreating and extending Japanese automobile buyer and supplier rings in North America. *Strategic Management Journal*, 16(8), 589-619.

McGahan, A. & M. Porter (2005). Comment on 'Industry, corporate and business-segment effects and business performance: a non-parametric approach' by Ruefli and Wiggins. *Strategic Management Journal*, 26 (9): 873-880.

Menguc, B. & T. Barker (2005). Re-examining field sales unit performance: Insights from the resource-based view and dynamic capabilities perspective. *European Journal of Marketing*, 39(7/8), 885-909.

Monroe, K. B., & R. Krishnan (1984). Effects of price on subjective product evaluations. in J. Jacoby and J. Olsen (Eds.) *Perceived quality: How Consumers View Merchandise in Stores*. (pp. 420-441), Lexington, MA: Lexington Books.

Nath, P., S. Nachiappan & R. Ramanathan (2010). The impact of marketing capability, operations capability and diversification strategy on performance: A resource-based view. *Industrial Marketing Management*, 39(2), 317-333.

Nelson, R. R. & S. Winter (1982). *An evolutionary theory of economic change*. Cambridge, MA: Harvard University Press.

Newbert S. L. (2007). Empirical Research on the resource-based view of the firm: An assessment and suggestions for future research. *Strategic Management Journal*, 28(2), 121-146.

Ocasio, W. & J. Joseph (2008). Rise and fall - or transformation? The evolution of strategic planning at the General Electric Company, 1940-2006. *Long Range Planning*, 41(3), 248-279.

Peng, M and E. Pleggenkuhle-Miles (2009). Current debates in global strategy. *International Journal of Management*, 11(1), 51-79.

Piore, M. J. (1994). Corporate reform in American manufacturing and the challenge to economic theory. In T. J. Allen & M. S. Scott-Morton (Eds.) *Information technology and the corporation of the 1990's* (pp. 43-60), New York: Oxford University Press.

Piore, M. J. & C. Sabel (1984). *The second industrial divide*. Cambridge MA: The MIT Press.

Porter, M. & N. Siggelkow (2008). Contextuality Within Activity Systems and Sustainability of Competitive Advantage. *The Academy of Management Perspectives*. 22(2), 34-57.

Porter, M.E. (1980). *Competitive strategy: Techniques for analyzing industries and competitors*. New York: The Free Press.

Prahalad, C. K. & G. Hamel (1990). The core competence of the corporation. *Harvard Business Review*, 68(3), 79-91.

Rao, R. C. & D. P. Rutenberg (1979). Preempting an alert rival: Strategic timing of the first plant by analysis of sophisticated rivalry. *Bell Journal of Economics*, 10(2), 412-428.

Ravenscraft, D. J. (1983). Structure-profit relationships at the line of business and industry level. *Review of Economics and Statistics*, 65(1), 22-31.

Reed, R. & R. DeFillippi (1990). Causal ambiguity, barriers to imitation, and sustainable competitive advantage. *Academy of Management Review*, 15(1), 88-102.

Rumelt, R. P. (1974). *Strategy, structure, and economic performance*. Boston: Harvard Business School.

Rumelt, R. P. (1991). How much does industry matter? *Strategic Management Journal*, 12(3), 167-185.

Rumelt, R. P., D. E. Schendel, & D. J. Teece (1991). Strategic management and economics. *Strategic Management Journal*, 12(3), 5-29.

Shepherd, W. G. (1972). *The elements of market structure. Review of Economics and Statistics*, Englewood Cliffs, NJ: Prentice Hall.

Tellis, G. J. (1988). The price elasticity of selective demand: A meta-analysis of econometric models of sales. *Journal of Marketing Research*, 25(4), 331-341.

Theodore, J. (2014). The importance of imbedding the concept of continuous development in the formulation of global strategies. *International Journal of Management & Information Systems (Online), 18*(2), 109-116.

Vorhies, D., R. Morgan & C. Autry (2009). Product-market strategy and the marketing capabilities of the firm: impact on market effectiveness and cash flow performance. *Strategic Management Journal*, 30(12), 1310-1322.

Weiss, L. W. (1971). The concentration-profitability relationship and antitrust. In H. J. Goldschmidt (Ed.) *Industrial concentration: The new learning*. (pp. 41-63), Boston, MA: Little Brown.

Wilson, J. & S. Eilertsen (2010). How did strategic planning help during the economic crisis? *Strategy & Leadership*, 38(2), 5-24.

USING AHP TO DEVELOP A MESURE OF WEBPAGE PRESENCE

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ABSTRACT

The importance of web presence to both virtual and bricks-and-mortar organizations is unquestioned and continues to increase. However, how to maximize the impact of this important tool has been the subject of only limited academic research. This research was designed to develop a measurement instrument that could be used - by organizations to produce an internally consistent, robust measure of their website design. The resulting instrument is based on over 600 surveys of the web presence of ***Inc. Magazine****'s Top 500 list (2012) of fastest growing companies in the United States and incorporates shared elements (best practices) common to the websites surveyed.*

Through the use of the Analytic Hierarchy Process (AHP) multi-attribute decision modelling technique, we developed an internally consistent, robust model against which companies can measure their web presence in comparison to these industry leaders.

INTRODUCTION

For all kinds of organizations, websites provide a valuable opportunity to to interact with existing and potential customers, employees, and other interested parties. An organization's website is often the first point of contact for visitors (Schmidt and Ralph 2013). Despite the increased importance of organizational websites, limited research has been conducted to develop an internally consistent, robust measure for website design. Our research is based on over 600 surveys of **Inc. Magazine's** Top 500 fastest growing companies in the United States. These surveys were used to develop a "best practices" approach for the measurement of effective organizational websites through the use of the Analytic Hierarchy Process (AHP). This provides an internally consistent, robust measure against which an organization's website can be compared.

Organizations recognize the importance of providing a well-designed web presence. Effective website design begins with a framework that is consistent with an organization's overall goals (Simeon 2010). However, many organizations continue to struggle with a strategic analysis of their websites and online presence. Studies exist offering best practices for website standardized technologies and practices (Aladwani and Palvia 2002; Ranganathan and Ganapathy 2002). These studies address structural issues, but not the expectations of the community of stakeholders who access an organization's online presence.

Traditional website design has been focused on in both online B2B (Business-to-Business) and B2C (Business-to-Consumer) organizations. Luo and Duan's (2013) research emphasizes the

importance of the organization's online presence and explains that both positive and negative social media has the potential to impact overall firm value. Zavyalova *et al.* (2012) explains the value of handling social media via an organization's website during times of crisis. In Basdeo's *et al's* (2006) research, they found that effective organizational websites could mitigate the impact of market actions on firm reputations. A company's website may even impact the perceived difference between actual organizational legitimacy and reputation (Deephouse and Carter, 2005).

Social media has been shown to have a significant impact on investors (Rindova and Maggitti 2008). This influence occurs across business suppliers, retailers, and consumers (Rapp et al 2013). Morgan *et al* (2012) that the influence of social media is different from traditional media in in quality, reach, frequency, usability, immediacy, and permanence. Despite the fact that many organizations considered Social Media as the province of the young, Curran and Lennon (2013) found that Social Media has significant value for all generations.

The quality of their website design impacts both public and private organizations. Sorum, Andersen, and Clemmensen's (2013) found that the real perception of quality comes from the actual users of the site despite the importance of professional website designers. They found the initial site-congruity and flow to have major influences on how consumers make an initial evaluation of a website. This initial evaluation is important as it is forms the basis of one's behavioral intention to stay on a site or abandon it. The design of a website is key to its success (Cho and Youn-Kyung 2013). Wakefield, Stocks, and Wilder (2004) further explained that overall success was determined by the user's initial positive experience on how they are able to achieve their goals for coming to the website.

Traditional bricks and mortar sites continually fine tune their locations to influence visitors to either linger and browse or not tarry (Clark *et al.* 2009). They suggest that the organization website is repidly becoming the primary interface with both existing customers and prospective customers. Others such as Li, Guang, and Thatcher (2009) found that the rapid development of user trust would successfully encourage customers and visitors to spend additional time on a website. While they explained that appearance and functionality were important, they also acknowledged their study was limited to the development of what they term "swift trust," and that it failed to consider many other potentially important variables. Brown, Rahman, and Hacker (2006) compared the website designs of the largest companies in the United States to the website designs of the fastest growing companies in the United States. They benchmarked the designs of these companies against "best practices" as defined by a leading consultant. Using this consultant's best practices, they found most of the high growth organizations were not using any type of systematic process to evaluate their homepages.

In this paper the results of using the Analytic Hierarchy Process (AHP) to develop a measure that would allow for a systematic process to evaluate web presence is presented. Any number of methods could have been chosen to determine a group of exemplary companies from which to develop a best practices measure. **Inc. Magazine's** Top 500 list of fastest growing companies from 2012 was chosen because these companies have demonstrated the ability to excel in a challenging economic environment. Their continued growth has shown that they have achieved higher than average performance.

ANALYTIC HIERARCHY PROCESS IN USE

One of the thorniest problems of any business decision process is the management of conflicting goals. The Analytic Hierarchy Process (AHP) is one of the most frequently used and best established methods for solving the issue of balancing conflicting goals (Bernasconi et al 2014; Saaty 1996, 1994, 1990; Zahedei 1986). The evaluation of the websites of numerous corporations led Kraft (2012) to describe a number of pairs of such conflicting goals. Companies need to consider keeping a web page complete yet simple, informative yet readable, and consistent yet interesting. With these conflicting goals, AHP provides a method for balancing the goals to achieve an efficient website design.

The problem is modeled as a hierarchy of criteria and decision alternatives with the importance of each element at each level of the hierarchy assessed utilizing a matrix of pairwise comparisons that weighs each element along with the others. After each pairwise comparison, the process uses the eigenvector of the comparison matrix to provide relative weights of the elements at each level of the hierarchy. Using hierarchic composition, the weights across various levels of the hierarchy are then aggregated to provide a final weight for each alternative. AHP organizes various factors in a systematic way and provides a simple structured solution to complex decision-making problems (Utkin and Simanova, 2012).

In the 1970's AHP was developed to aid in solving complex problems (Triantaphyllou and Mann, 1995). Individuals with an understanding of the situation provide the subject matter expertise. AHP provides the theory and methodology for the modeling of unstructured problems (Saaty, 1980). The decision problem is broken down into small easily understandable elements, organized into a hierarchy of levels. AHP provides a mechanism for evaluating the interrelationships among the components of the hierarchy (Saaty, 1994). Use of AHP requires only pair-wise comparisons allowing inclusion of criteria that are difficult or impossible to quantify except by expressing that one is preferred to another. AHP is a process designed to facilitate the formalization of multi-criteria decision-making. It enables the decision maker to incorporate both "hard data" and less quantifiable elements such as judgments, feelings, and experiences. AHP has been widely used in a variety of decision-making applications (Saaty 1996).

The decision problem is structured hierarchically into a value tree from higher level criteria to lower level sub-criteria. If the criteria being compared are objective, the numeric values for the criteria are compared in a series of pair-wise comparisons. If, however, the criteria are wholly or partially subjective, then the comparisons are made on the basis of relative preference between the two. Once these comparisons have been established for each criterion, an $n \times n$ matrix of comparisons is constructed, where n equals the number of criteria. In this matrix, the elements are arrayed where the A_{ij} element is always the reciprocal of the A_{ji} element. That is, if the first criterion is preferred over the second criterion by a factor of four then the A_{12} element of the matrix is four and the A_{21} element is one fourth. The principle eigenvector of the matrix is then calculated and normalized. This eigenvector represents the complete set of the relative importance of the criteria. This method results in a dependable, mathematically rigorous, quantitative approach that overcomes the complexities and difficulties inherent in measuring unlike elements and delivers a system that can be trusted and relied upon by managers (Saaty, 1996). For a more complete

discussion of the mathematical process and theory underlying AHP see Saaty (1994). Furthermore, Harker and Vargas (1987) provide a discussion of the inherent theoretical strengths and weaknesses of AHP.

A wide variety of decision support applications including assessment of the financial strength of publicly traded companies (Seyed, *et al.* 2013), the choice of an advertising strategy (Zolfani, *et al.* 2012), and maintenance strategy (Fouladgar 2012) have been subjected to AHP. Because it is based on pairwise comparisons that require only the assignment of relative importance of the two elements under consideration at a time, it lends itself to use in a variety of situations where the attributes are difficult to measure. By using a mathematically rigorous process, it offers a measure of internal consistency (Saaty 1996). AHP has become one of the most popular aids to decision-making and is now widely accessible through commercially available software programs (Expert Choice, Inc., 2000; Forman *et al.*, 1983). This paper presents a format for using AHP to produce an internally consistent, robust measure of an organizational website's overall effectiveness.

Evaluating the current problem using AHP began by analyzing the websites of forty of the organizations included in **Inc. Magazine's** Top 500 list (2012) of fastest growing companies in the United States. These companies were from randomly selected industries and provided an overview of shared elements (best practices) common to the websites surveyed. We suggest that by identifying the design elements included in the websites of these exemplary organizations, we can develop a measure of website effectiveness using AHP. Over a period of two semesters (2012-2013), six hundred surveys of the forty websites were completed by senior business students. Students were provided links to the websites being surveyed and used Survey Monkey as the survey instrument. Individual students completed surveys comprised of forty-four questions for each of seven different companies. Websites to be surveyed were selected randomly for students. Scorers used a common set of criteria to analyze the sites and were instructed on scoring. A senior researcher (one of the authors) spot-checked the surveys for consistency and completeness.

From these surveys a list of shared elements (best practices) common to the websites (Table 1) was compiled. To facilitate the identification of predominant relationships between the individual web elements, a concept map was constructed of those elements was constructed (Figure 1). This suggested the grouping of the elements into four categories: Look, User Interface, Content, and Memorability. Look includes the visual aspects of the website. User Interface refers to the clarity and readability of the language used and the ease of user navigation. Content includes all aspects of the information content about the company and its products or services. The elements that comprise Content are subdivided into those that are related to information about the company and those that are related to establishing and maintaining a relationship with users. These are termed About and Relations. Memorability captures those qualities that make the website easy to remember and share with others. This category was subdivided into two categories that are termed Presentation and Repetition. Presentation captures those elements that represent how easy the name and URL are to remember and share, while Repetition captures the degree to which graphics, trademarks and other identifying marks are repeated.

The prominence of each of these identified elements on the website was part of the analysis. Scoring was binary reflecting whether or not, based on common criteria, each of the elements

existed to a significant extent on each website. Analyses were checked and validated by the authors in an attempt to control for personal bias. Once data from this analysis was aggregated, it provided a benchmark by which an AHP measurement instrument was developed.

Table 1
WEBSITE BEST PRACTICES

Design Element	Description
Blog/Newsletter	The website includes up-to-date blogs or newsletters?
Brand/Logo Consistency	The organization's brands (colors, logo, contact information) are consistent on different pages of the website?
Consistent Page Image	The overall image of the website is consistent.
Design Consistency	There is a consistent design profile across all pages of the website.
Easy Name	The website has a short easy-to-remember/share title.
First Impression	How professional is the look and feel of the website?
Navigation/ Tabs	It is easy to navigate the website.
Niche	The "About" section clearly describe the niche of the organization.
Product Service	The "About" section clearly describes the organization's products and services.
Reading	Information available on the website is clear and easy to follow.
Social Media	The website includes easy-to-access social media tools.
URL - Name	The website's URL includes the organization's name.
URL - Prod/Serv	The website's name reflects the products/services of the organization.
Vision/Mission	The "About" section describes the vision/mission of the organization.
Visual Appeal	The website is visually appealing.

SCORE DEVELOPMENT

Development of a score required incorporation of the numerous elements of a well-developed website into a decision process that is capable of handling the complexity of the interaction between the elements and provides the degree of internal validity required to assure that the measurement of website quality is consistent from one evaluation to the next and from one subject to the next. This was made possible by use of AHP, a formal multi-attribute decision analysis process.

The first step in using the AHP to structure a benchmark website measure required the decision maker to structure the problem as a hierarchy. Then, the elements of the hierarchy are prioritized by responses to questions about the dominance, or importance, of each element compared to the others (Liberatore and Miller 1998).

A useful approach in this first, and perhaps most creative, step in the AHP is to start with the goal and decompose it into the most general and easily controlled factors at the simplest or most basic level possible. The decision maker then works back up through the hierarchy starting with the simplest sub-criteria that must be met and combining the sub-criteria into generic higher level criteria until the various measurements are linked in such a way that comparisons between unlike elements are possible (Liberatore and Miller, 1998).

As the number of objects to be compared increase, the number of pair-wise comparisons necessary to rank them rapidly becomes unwieldy. In addition, the method necessities that the comparisons rate one of each pair of choices as more important than the other; a determination must be made as to which element is more important and to what degree it is more important. This may be accomplished a number of ways, including calculation with a hand-held calculator, spreadsheet software, or math software. However, AHP software is available to facilitate the comparison and ranking operations of the AHP as well as providing the numeric solution. These software packages make it possible to easily manipulate a large number of variables, keeping track of comparisons, rankings, and weights. They also provide measures of the consistency of the judgments and allow complete sensitivity analysis. Calculations for this example were done using Web-HIPRE, a publicly available Web based software package provided by the Systems Analysis Laboratory of Helsinki University of Technology (Web-HIPRE, 1998).

THE AHP PROCEDURE

In this example, the first level of the hierarchy is the goal of the AHP (developing a benchmark measure of website quality) and is followed by the second level (four distinct categories of website elements), and the third consisting of the individual web site elements themselves. This outlines the development of the hierarchy.

When the elements of the hierarchy are properly identified in the software program, they must be connected to depict their relationships (Figure 1). In the first column, the goal of the analysis is listed. In this case it is designated SCIPS (Sale-Cheek Internet Presence Score). The four categories of elements previously identified and discussed comprise this score. These categories are identified with their associated elements as noted previously.

After these relationships are established, the weighting procedure is performed to compare the importance of each of the element to the other elements to which it is attached. This is accomplished simply through a series of questions establishing “how much more important” one element is compared to another, Web-HIPRE requires the user to either rank each of the elements on a scale of one to ten or express their relative relationship as how many times one is more important than the other, as in, “A is 1.23 more important than B.”

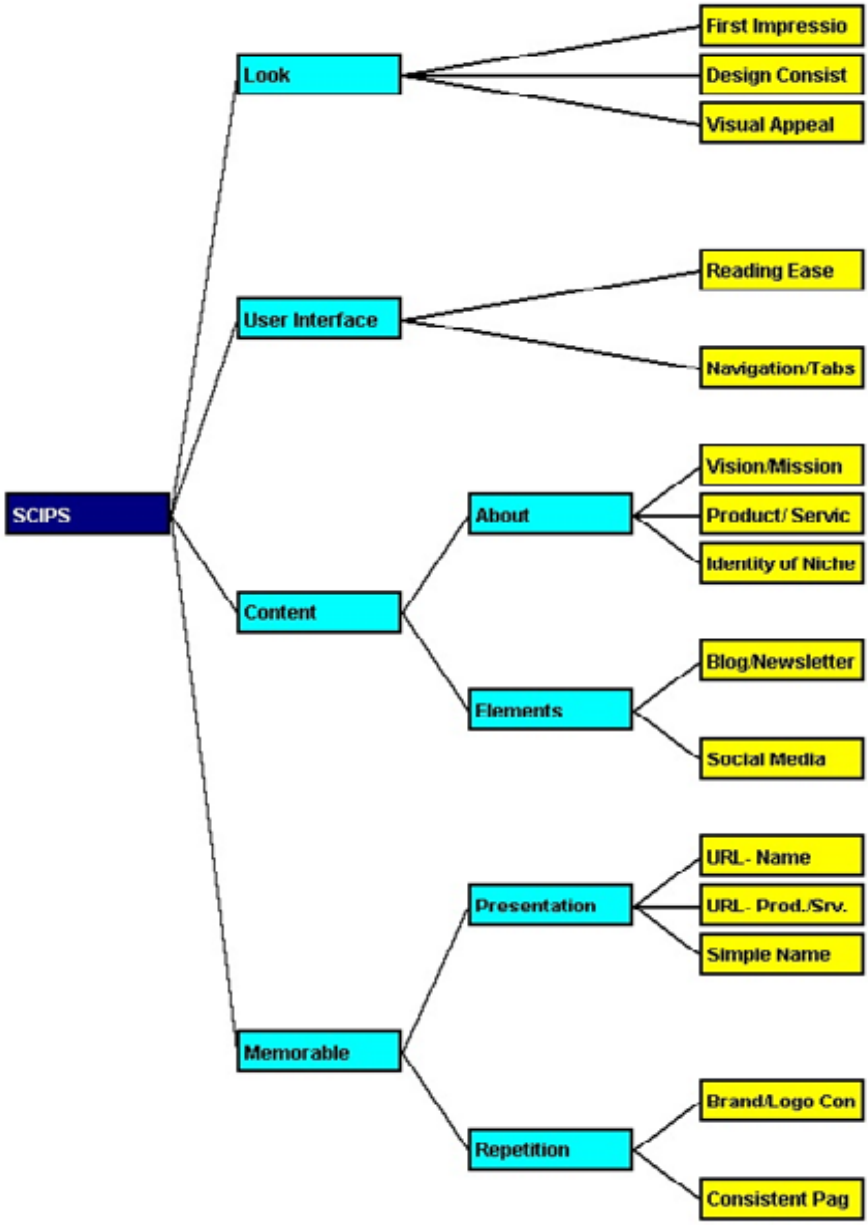

Figure 1: Hierarch

To determine the relative weights of the elements for inclusion in the AHP, the percentage of the websites analyzed that included each element was tabulated. These percentage scores were normalized by conversion to z-scores. The z-scores which ranged from less than three to greater than negative three were then converted to all positive numbers so they could be used in AHP. To accomplish this, each was added to three which preserved their original rank and relative magnitude, but made it possible to easily calculate their relative magnitude. (See Table 2.)

Table 2
SCORES

Element	Score
Reading	3.694
Consistent Page Image	3.229
First Impression	2.707
Navigation-Tabs	2.707
Brand-Logo Consistency	2.707
Visual Appeal	2.247
Product Service	2.247
Niche	2.000
Easy Name	1.836
URL - Name	1.668
Design Consistency	1.489
Vision-Mission	1.293
Blog-Newsletter	0.929
Social Media	0.929
URL – Includes Produce or Service	0.298

Once this process is complete, the program automatically generates the eigenvector of the matrix and returns a weighing factor for each of the lowest level elements. The set of weighting factors for each of the elements is displayed in Table 3.

Table 3
WEIGHTING FACTORS

Element Name	Weight
First Impression	0.128
Design Consistency	0.070
Visual Appeal	0.106
Reading Ease	0.154
Navigation/Tabs	0.113
Vision/Mission	0.049
Product/Service	0.009
Identity of Niche	0.043
Blog/Newsletter	0.027
Social Media	0.027
URL – Name	0.046
URL – Product/Service	0.009
Simple Name	0.050
Brand/Logo Consistency	0.078
Consistent Pages	0.093

The Internet presence of an organization's website can now be accomplished using this score. The weights for each of the individual elements are displayed in Three 3. Note that the score of the benchmark totals one (save for a rounding error of 2/1000); therefore, a score of less than one would indicate that a website did not meet the benchmark, and a score above one indicates that the website's design has exceeded the benchmark.

CONCLUSIONS

As organizational website design increases in importance, we continue to increase our knowledge of what constitutes an effective organizational website. In this study, we performed 600 surveys of 40 organizations identified in the Inc. Magazine's Top 500 2012 list of the fastest growing companies in the United States. Utilizing these organizational websites as benchmarks of effective website design, we were able to develop a measurement tool that can be used by organizations to produce an internally consistent, robust measure of their website design. In the future, we urge other researchers to build upon our study and continue the quest to develop tools that facilitate the development of effectively designed organizational websites.

REFERENCES

Aladwani, A. M., Palvia, P.C. 2002. Developing and validating an instrument for measuring user perceived web quality. *Information & Management* **39**(6): 467-476.

Basdeo, D., Smith, K. G., Grimm, C., Rindova, V. P., Derfus, P. 2006. The impact of market actions on firm reputation. Strategic Management Journal **27**(12): 1183-1204.

Brown, W., Rahman, M., Hacker, T. 2006. Home page usability and credibility. *Information Management & Computer Security* **14**(3): 252-269.

Cho, E. C., Youn-Kyung, K. 2012. The effects of website designs, self-congruity, and flow on behavioral intention. *International Journal of Design* **6**(2): 31-39.

Clark, W. R., Ezell, J., Clark, J., Sheffield, D. N. 2009. Stay or leave: Applying approach-avoidance theory to virtual environments. *Journal of Database Marketing & Customer Strategy Management* **16**(4): 231-240.

Curran, J. M., Lennon, R. 2013. Comparing younger and older social network users: An examination of attitudes and intentions. *Journal of American Academy of Business, Cambridge* **19**(1): 28-37.

Deephouse, D. L., Carter, S. M. 2005. An examination of differences between organizational legitimacy and organizational reputation. *Journal of Management Studies* **42**:2, 329–360.

Expert Choice, Inc. 2000 <http://www.expertchoice.com/>. Accessed 140203.

Forman, E., Saaty, T., Selly, M., Waldron, R., 1983. *Expert Choice*, McLean, VA, Decision Support Software, Inc.

Fouladgar Mohammad Majid, Abdolreza Yazdani-Chamzini, Ali Lashgari, Edmundas Kazimieras Zavadskas and Zenonas Turskis (2012) Maintenance strategy selection using AHP and COPRAS under fuzzy environment. *International Journal of Strategic Property* **16**(1): 85–104

Harker, P., Vargas, L., 1987. The theory of ratio scale estimation: Saaty's analytic hierarchy process. *Management Science* **33**(11): 1383-1403.

Kraft, Christian (2012) User Experience Innovation, User Centered Design That Works, New York, New York, Apress Media.

Li, X., Rong, G., Thatcher, J. B. 2009. Swift trust in web vendors: The role of appearance and functionality. *Journal of Organizational and End User Computing* **21**(1): 88-108.

Liberatore, M., Miller T., 1998. A framework for integrating activity-based costing and the balanced scorecard into the logistics strategy development and monitoring process, *Journal of Business Logistics* **19**(2): 131-55.

Luo, X., Zhang, J., Duan, W. 2013. Social media and firm equity value. *Information Systems Research* **24**(1): 146-VI.

Ranganathan, C., Ganapathy, S. 2002. Key dimensions of business-to-consumer websites. *Information & Management* **39**(6): 457-465.

Rapp, A., Beitelspacher, L. S., Grewal, D., Hughes, D. E. 2013. Understanding social media effects across seller, retailer, and consumer interactions. *Academy of Marketing Science.Journal* **41**(5): 547-566.

Saaty, T., 1980. *Analytic Hierarchy Process: Planning, Priority Setting, Resource Allocation.* McGraw-Hill International Book Company, New York.

Saaty, Thomas L. 1994. How to make a decision: The analytic hierarchy process. Interfaces 24, no. 6, November-December: 19-43.

Saaty, 1996. The analytic hierarchy process. Pittsburg, PA: RWS Publications.

Schmidt, S. M. P., Ralph, D. L. 2013. Marketing using your website. The Business Review, Cambridge 21(1): 52-58.

Seyed-Hasan Hosseini, Mohammad Esmaeil Ezazi, Mohamad Rasoul Heshmati, Seyed-Mohamad Reza, Hosseini Moghadam 2013 Top companies ranking based on financial ratio with AHP-TOPSIS combined approach and indices of Tehran stock exchange. *International Journal of Economics and Finance* **5**(3): 126-133.

Triantaphyllou, E. and Mann, S., 1995. Using the analytic hierarchy process for decision making in engineering applications: some challenges, *International Journal of Industrial Engineering: Applications and Practice* **2**(1): 35-44.

Utkin, L.V., Simanova, N.V. 2012. The DS/AHP method under partial information about criteria and alternatives by several levels of criteria, International Journal of Information Technology & Decision Making, **11**:2, 307-326.

Wakefield, R. J., Stocks, M. H., Wilder, W. M. 2004. The role of website characteristics in initial trust formation. *Journal of Computer Information Systems* **45**(1): 94-103,

Web-HIPRE. 1998 <http://www.hipre.hut.fi/>. Accessed 140203.

Zavyalova, A., Pfarrer, M., Reger, R.,Shapiro, D. 2012. The effects of firm actions and industry spillovers on media coverage following wrongdoing. *Academy of Management Journal* **55**:5, 1079-1101.

Zolfani , Sarfaraz Hashemkhani, Nahid Rezaeiniya, Morteza Pourhossein, Edmundas Kazimieras Zavadskas 2012. Decision making on advertisement strategy selection based on life cycle of products by applying FAHP and TOPSIS GREY, Inzinerine Ekonomika. *Engineering Economics* **23**(5): 471-48.